



Council of the
European Union

Brussels, 25 April 2018
(OR. en)

Interinstitutional File:
2018/0103 (COD)

8342/18
ADD 2

COMPET 245
CHIMIE 23
ENFOPOL 186
ENV 254
MI 288
ENT 77
UD 87
IA 110
CODEC 634

COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	18 April 2018
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union

No. Cion doc.:	SWD(2018) 104 final
----------------	---------------------

Subject:	Commission Staff Working Document Impact Assessment accompanying the document COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document proposal for a Regulation of the European Parliament and of the Council on the marketing and use of explosives precursors, amending Annex XVII to Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013 on the marketing and use of explosives precursors
----------	---

Delegations will find attached document SWD(2018) 104 final.

Encl.: SWD(2018) 104 final

Strasbourg, 17.4.2018
SWD(2018) 104 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

**proposal for a Regulation of the European Parliament and of the Council
on the marketing and use of explosives precursors, amending Annex XVII to Regulation
(EC) No 1907/2006 and repealing Regulation (EU) No 98/2013 on the marketing and use
of explosives precursors**

{COM(2018) 209 final} - {SWD(2018) 105 final}

Table of Contents

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT.....	6
2. PROBLEM DEFINITION	8
2.1. What are the problems?	8
2.1.1.Explosives precursors continue to be misused for the manufacturing of HMEs..	9
2.1.2.Economic operators face unnecessary obstacles to the free movement of explosives precursors in the internal market.....	11
2.2.What are the problem drivers?	13
2.2.1.The level of access to restricted substances for non-professional use is no longer adequate	13
2.2.2.New and evolving threats	14
2.2.3.Insufficient awareness along the supply chain	15
2.2.4.Restrictions and controls are not applied and enforced by public authorities in a sufficient or fully effective manner	15
2.2.5.Fragmentation of the system of restrictions and control across the EU	16
2.2.6.Certain provisions in the current Regulation are not clear	17
2.3. How will the problems evolve?.....	18
3. WHY SHOULD THE EU ACT?	20
3.1. Legal basis	20
3.2. Subsidiarity: Necessity of EU action.....	20
3.3. Subsidiarity: Added value of EU action	21
4. OBJECTIVES: WHAT IS TO BE ACHIEVED?	21
4.1. General objectives	21
4.2. Specific objectives.....	21
5. WHAT ARE THE AVAILABLE POLICY OPTIONS?	22
5.1. Description of the policy options	22
5.1.1.Policy Option 0 – Baseline	22
5.1.2.Policy Option 1 – Reinforce the application of the Regulation with non-legislative measures	23
5.1.3.Policy Option 2 - Strengthen and clarify the restrictions and controls of the Regulation	25
5.1.4.Policy Option 3 – Introduce further controls along the supply chain.....	28
5.2. Measures discarded at an early stage.....	31

6.	WHAT ARE THE IMPACTS OF THE POLICY OPTIONS?	31
6.1.	Effectiveness.....	31
6.2.	Economic impacts	36
6.3.	Social impacts.....	41
6.4.	Environmental impacts	45
6.5.	Impact on fundamental rights	46
7.	HOW DO THE OPTIONS COMPARE?	48
8.	PREFERRED OPTION.....	50
8.1.	Advantages and proportionality of the preferred option	51
8.2.	REFIT (simplification and improved efficiency)	51
9.	HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?	52
	ANNEX 1: PROCEDURAL INFORMATION	53
	ANNEX 2: SYNOPSIS REPORT OF THE STAKEHOLDER CONSULTATION	58
	ANNEX 3: EVALUATION OF REGULATION EU 98/2013 ON THE MARKETING AND USE OF EXPLOSIVES PRECURSORS	75
	INTRODUCTION	75
	Purpose of the evaluation	75
	Scope of the evaluation	75
	BACKGROUND TO THE INITIATIVE	76
	Description of the initiative and its objectives	76
	Baseline	79
	METHOD	81
	IMPLEMENTATION STATE OF PLAY	83
	Security and market context	83
	Compliance and implementation measures	84
	Overall effect of the Regulation	88
	Key challenges arising from the application of the Regulation	89
	ANSWERS TO THE EVALUATION QUESTIONS.....	92
	Relevance	92
	Effectiveness	97
	Efficiency	101
	Coherence	106
	EU Added Value	107
	CONCLUSIONS	109

ANNEX 4: MARKET ANALYSIS	111
ANNEX 5: ANALYTICAL MODELS USED IN PREPARING THE IMPACT ASSESSMENT	158
ANNEX 6: WHO IS AFFECTED BY THE INITIATIVE AND HOW?	165
ANNEX 7: DISCARDED OPTIONS	174
ANNEX 8: MONITORING AND EVALUATION INDICATORS	178
ANNEX 9: MAP OF THE DIFFERENT REGIMES IN THE EU FOR THE MARKETING AND USE OF RESTRICTED EXPLOSIVES PRECURSORS	185
ANNEX 10: DESCRIPTION OF THE PROPOSED COMMISSION RECOMMENDATION SETTING OUT GUIDELINES FOR LICENSING AND REGISTRATION REGIMES (MEASURE UNDER POLICY OPTION 1).....	186
ANNEX 11: TABLE WITH OVERVIEW SCORES ASSESSMENT CRITERIA	187
ANNEX 12: SENSITIVITY ANALYSIS.....	186

Glossary

ANFO	Ammonium nitrate / fuel oil
DG HOME	Directorate-General for Migration and Home Affairs
ECTC	European Counter Terrorism Centre
EEA	European Economic Area
EU	European Union
EU INTCEN	EU Intelligence and Situation Centre
FTE	Full Time Equivalent
HME	Homemade Explosive
HMTD	hexamethylene triperoxide diamine
IASG	Impact Assessment Steering Group
IED	Improvised Explosive Device
NACE	Nomenclature des Activités Économiques dans la Communauté Européenne
NCA	National Competent Authorities
NCP	National Contact Points
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RSB	Regulatory Scrutiny Board
SCP	Standing Committee on Precursors
SME	Small and medium-sized enterprises
TATP	Triacetone Triperoxide
TE-SAT	Terrorism Situation and Trend Report
TFEU	Treaty on the Functioning of the European Union
TNT	Trinitrotoluene

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

Explosives precursors are chemical substances that can be misused to manufacture homemade explosives (HMEs). These substances, or mixtures containing them, serve a variety of purposes. Lower concentrations of explosives precursors can be found in printer ink cartridges, disinfectants, fuels, pesticides, shampoos, carpet cleaners and nail polish removers. High concentrations are used in industrial settings to treat metal surfaces, coat products and produce pharmaceuticals. In the European Union (EU), substances and mixtures containing certain explosives precursors above specific limit values are in principle not available to the general public, because their potential use in the illicit fabrication of HMEs poses a threat to security. Professional users, who need access to these chemicals for their trade, business or profession, can use higher concentration levels.

At the same time, HMEs have been used in the vast majority of terrorist attacks in the EU, including those in Madrid in 2004, London in 2005, Paris in 2015, Brussels in 2016, and Manchester and Parsons Green in 2017. HMEs have also been responsible for the vast majority of victims of such attacks in the last decades.

Regulating the availability of explosives precursors on the market was identified as a policy priority in the 2008 EU Action Plan on Enhancing the Security of Explosives¹. Following the adoption of the Action Plan, the European Commission established a Standing Committee on Precursors (SCP), an expert group that brings together experts from Member State authorities and stakeholders from the chemicals industry and retail. Based on the recommendations of the SCP and the outcomes of an impact assessment of the possible options², the Commission adopted a proposal for a Regulation on explosives precursors in 2010.³

Regulation (EC) No 98/2013 on the marketing and use of explosives precursors⁴ ("the Regulation") entered into force on 1 March 2013 and became applicable on 2 September 2014⁵. The Regulation establishes a system of restrictions and controls aimed at limiting the availability of an agreed list of explosives precursors to the general public and ensuring appropriate reporting of suspicious transactions through the supply chain. The substances concerned are divided in two categories, listed in the Annexes to the Regulation. The making available, introduction, possession and use of the precursors listed in Annex I, either on their own or in mixtures or substances including them, is regulated by one of the three regimes described in the Regulation (i.e. a ban for the general public, licensing or a registration regime) or a combination of these regimes. The substances in Annex II are only subject to an obligation to report suspicious transactions.

¹ Council of the European Union, 'EU Action Plan on Enhancing the Security of Explosives', 8109/08, 2008.

² Commission Staff Working Document: Impact Assessment Accompanying the Proposal for a Regulation of the European Parliament and of the Council on the Marketing and Use of Explosives Precursors, SEC(2010) 1041.

³ Proposal for a Regulation of the European Parliament and of the Council on the marketing and use of explosives precursors, COM(2010)0473.

⁴ Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors, OJ L 39 252/262.

⁵ Following the decision of the joint EEA committee to amend the EEA agreement and incorporate Regulation, the act also entered into force in Iceland, Liechtenstein and Norway on 13 December 2014.

The importance of such restrictions and controls for disrupting the activities of terrorist networks by make it more difficult to attack targets and to access and deploy dangerous substances was again emphasised in the **European Agenda on Security**⁶, adopted by the Commission in April 2015

After the attacks in Paris on 13 November 2015 and in Brussels on 22 March 2016, the Commission highlighted in the **Action Plan against illicit trafficking in and use of firearms and explosives**⁷ and the **Communication on delivering on the EU agenda on security to fight against terrorism**⁸ that explosives precursors remained too easily available and that existing controls should be reinforced.

In February 2017, the Commission adopted a **report on the application of the Regulation**⁹. The report outlined a series of challenges faced by Member States and the supply chain to implement the Regulation and the need to increase the capacity of all those involved in implementing and enforcing the restrictions and controls. Limitations of the legislation relating to awareness in the supply chain, and the multiplicity of different regimes across the EU, which creates important security gaps and challenges for the supply chain actors which conduct business across the EU were brought forward.

A **Commission recommendation on immediate steps to prevent misuse of explosives precursors**¹⁰ was adopted in October 2017. Member States were urged to take all necessary measures under the existing Regulation to prevent terrorists from accessing restricted substances and invited to carry out a thorough assessment of the prohibition, licensing or registration systems they had put in place.

The Council of the European Union welcomed the recommendation in the **Council conclusions of 7 December 2017**¹¹ and called on Member States to limit the availability of explosives precursors to the general public. The European Parliament also expressed its concern about the wide availability of firearms and explosive precursors on hidden networks and growing links between terrorism and organised crime.¹²

- Substances and mixtures that can be used to manufacture illicit explosives are also subject to several other EU acts, which aim to ensure the functioning of the internal market. They mostly concern public health, the environment and safety aspects of chemicals. At present, there are provisions on ammonium nitrate in both **Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)**¹³ and

⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Agenda on Security, COM(2015) 185 final.

⁷ Communication from the Commission to the European Parliament and the Council Implementing the European Agenda on Security: EU Action Plan Against Illicit Trafficking in and use of Firearms and Explosives, COM(2015)624.

⁸ Communication from the Commission to the European Parliament, the European Council and the Council delivering on the European Agenda on Security to fight against terrorism and pave the way towards an effective and genuine Security Union, COM(2016)230.

⁹ Report from the Commission to the European Parliament and the Council on the application of, and delegation of power under, Regulation (EU) 98/2013 of the European Parliament and of the Council on the marketing and use of explosives precursors, COM(2017)103.

¹⁰ Commission Recommendation on immediate steps to prevent misuse of explosives precursors, COM(2017)6950

¹¹ Council of the European Union, 'Council conclusions on strengthening the European Union response to CBRN related risks, reducing access to explosive precursors and protecting public spaces', 15648/17, Brussels.

¹² European Parliament resolution of 3 October 2017 on the fight against cybercrime (2017/2068(INI)).

¹³ Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency,

the Regulation on the marketing and use of explosives precursors. Under REACH, ammonium nitrate containing nitrogen above a certain concentration is prohibited to be placed on the market except for the supply to downstream users, distributors, farmers for the use in agricultural activities and natural or legal persons engaged in professional activities. The Regulation on explosives precursors subjects the supply of ammonium nitrate to a mechanism for reporting suspicious transactions, and also enables Member States, via a safeguard clause, to put in place further restrictions if there are reasonable grounds for doing so.

- **Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP Regulation).**¹⁴ A substance or a mixture fulfilling the criteria relating to physical hazards, health hazards or environmental hazards, laid down in Parts 2 to 5 of Annex I of Regulation (EC) No 1272/2008 is hazardous and shall be classified in relation to the respective hazard classes provided for in that Annex. In certain cases, the classification of a chemical is harmonised at EU level. The list of harmonised classification and labelling is included in Annex VI to the CLP Regulation.
- **Regulation (EC) No 2003/2003 relating to fertilisers**¹⁵ lays down precise rules concerning safety and control measures for ammonium nitrate fertilisers.
- **Regulation (EC) No 1259/2013**¹⁶ and **(EC) No 273/2004**¹⁷ respectively address the trade in drug precursors between the EU and third countries, and within the EU. Several explosives precursors can also be used as drug precursors.

These different acts are complementary, to the extent that they have a different focus in terms of scope and substances/products concerned. The evaluation (see Annex 3) concluded that there are no major inconsistencies and overlaps between the Regulation and other relevant EU initiatives.

2. PROBLEM DEFINITION

2.1. What are the problems?

Following the analysis of the implementation of the Regulation, the Commission has carried out a broader evaluation as part of this impact assessment in order to analyse more thoroughly the effectiveness, efficiency, relevance, coherence and EU added value of the Regulation (Annex 3). This analysis demonstrated that the Regulation has achieved a number of results but also showed a

amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, OJ L 396 L.

¹⁴ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1).

¹⁵ Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers, OJ L 304, 1-194.

¹⁶ Council Regulation (EC) No 1259/2013 of 20 November 2013 amending Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors, (OJ L 330, 10.12.2013, p. 30).

¹⁷ Regulation (EC) No 273/2004 of the European Parliament and of the Council of 11 February 2004 on drug precursors (OJ L 47, 18.2.2004, p. 1).

number of limitations in the Regulation and challenges which are impacting its added value and are causing security risks. They can be linked to two main problems.

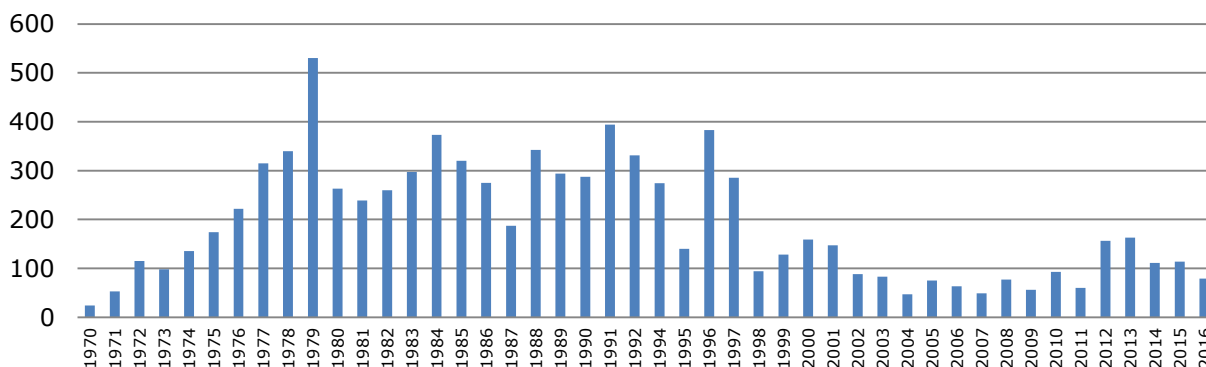
On the one hand, the existing access restrictions do not prevent explosives precursors to be accessed and misused for the manufacture of HMEs, while on the other hand, economic operators are facing a number of seemingly disproportionate obstacles in operating in the EU internal market.

This impact assessment report cannot provide detailed information on incidents and attacks involving explosives precursors, as this risks exposing vulnerabilities in Member States and may jeopardise ongoing investigations and prosecutions.

2.1.1. Explosives precursors continue to be misused for the manufacturing of HMEs

As reported by the Global terrorism Database,¹⁸ the share of attacks in the EU which used explosives has been on average increasing since 1970. Numbers decreased at the end of the 1990's until 2012 and then started to increase again. The share of deadly attacks was about 60% at the beginning of the 1970's but increased to reach 100% and since 2000, all terrorist attacks using explosives killed at least one person. The total number of deaths in terrorist attacks using explosives has dramatically increased in 2015 and 2016¹⁹.

Figure 1 - Number of terrorist attacks using explosives in the EU from 1970 to 2016

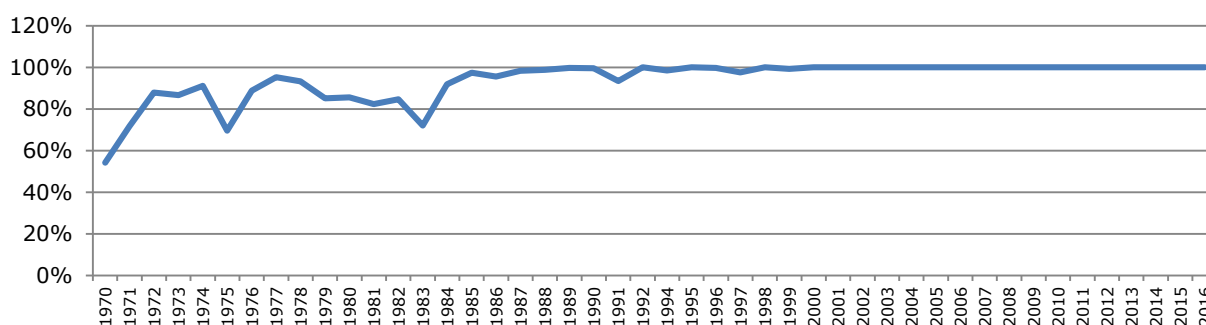


Source: National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2017) Global Terrorism Database

¹⁸ A publicly available database including a large amount of information on worldwide terrorist events.

¹⁹ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol.

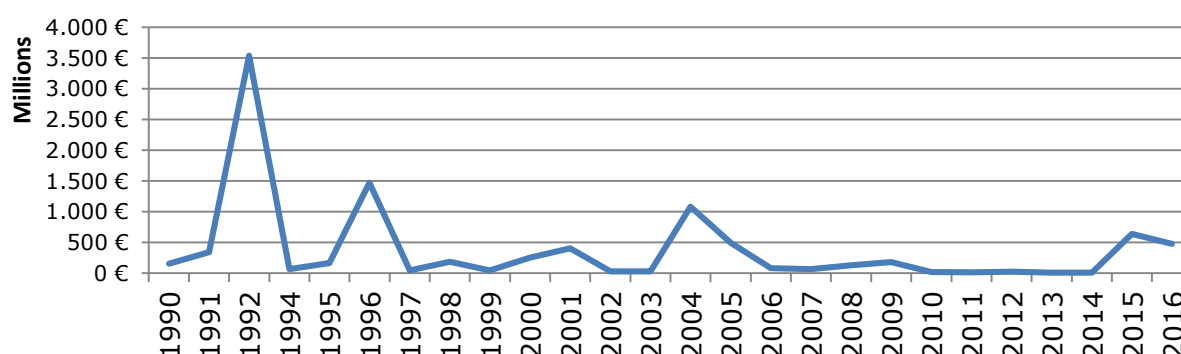
Figure 2 - Share of fatal terrorist attacks using explosives in the EU from 1970 to 2016



Source: National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2017) Global Terrorism Database

The human and social consequences in terms of lives lost and persons injured are considerable. The economic impact is also deemed to be very important. Although there is no way to provide a fully reliable quantification of these costs, there are methods which are used and illustrate their importance. For example, the Institute for Economics and Peace uses the Global Terrorism Database to calculate the global costs of terrorism with regard to lives lost, injuries and damage to property and infrastructure. The figure below presents the cost inflicted by terrorist attacks using explosives in the EU by year (the increase in 2015 and 2016 - up to EUR 778.8 million in 2015 and 586.3 million in 2016 - reflect the increased number of deaths in these two years).

Figure 3 - Cost of terrorist attacks using explosives in the EU from 1990 to 2016



Source: Institute for Economics and Peace based on GDT database

HMEs have been the most common type of explosive used in recent terrorist attacks and continue posing a much higher threat in Europe than other types of explosives²⁰. They are relatively easy to make, fairly simple to use and rather effective²¹. The availability of explosives precursors has facilitated their use²². Although recent attacks and incidents have mostly involved Triacetone Triperoxide (TATP), the threat concerns a wider range of HMEs and explosives precursors.²³

²⁰ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol; ECTC Threat Assessment 2018, Europol.

²¹ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol.

²² *Ibid.*

²³ See Annex 3.

a) Dangerous substances remain accessible to illegitimate users

As evidenced by the evaluation, the amount of explosives precursors available on the market has decreased following the entry into force of the Regulation. Reports from national authorities indicate that some economic operators withdraw products containing restricted substances from the market. In some Member States, in which restricted explosives precursors remain available to the general public, but are subject to licencing, reports show that consumers face significant difficulties in finding restricted substances on the market, which has led to lowering the illegal use of them. In addition, in some Member States, a significant decrease in the number of police cases involving explosives precursors has also been reported in the years following the entry into force of the Regulation²⁴.

Nevertheless, regulated substances continue to be diverted and used for the illicit manufacture of HMEs. In a number of investigated cases, terrorists have obtained explosives precursors covered by the Regulation legally or at least without having to resort to any form of theft. This suggests that under the current framework a number of dangerous substances remain accessible to the general public.

This is evidenced notably by recent attacks involving HMEs between 2015 and 2017, as well as by a number of foiled attacks, and by a number of additional incidents reported by national authorities, where HMEs and related materials have been found and seized by the police. The most commonly used HMEs in attacks in the EU have been TATP and Hexamethylene triperoxide diamine (HMTD), created from hydrogen peroxide, a substance to which access to members of the general public has been restricted by the Regulation, and acetone or hexamine, which are subject to a reporting of suspicious transactions obligation.

Interviews from consulted stakeholders and feedback from the national assessments by the Member States raise additional concerns in relation to online sales²⁵. In one of the recent terrorist attacks in the EU, explosives precursor substances that are currently not restricted but subject to the reporting obligations under the Regulation, have been successfully acquired by the perpetrators through online purchase from different addresses.

The Regulation's aim is to restrict and control all substances proportionally to the threat they pose. The fact that explosives precursors continue to be accessed and misused in terrorist attacks suggests that tighter restrictions and controls on substances already covered by the Regulation are necessary.

b) Detection of threats is not sufficiently effective throughout the EU

Reporting practices have overall contributed to improving detection across Member States of potential threats and misuse of available explosives precursors²⁶. Large stocks of explosives precursors intended to manufacture HMEs have been discovered and seized in different Member States and reports of suspicious transactions from economic operators have contributed, in several cases, to thwarting terrorist attacks. A known case in Germany, in 2015, of a planned terrorist attack

²⁴ National assessments of effectiveness.

²⁵ Internet sales of explosives precursors raise concerns for 77% of the respondents to the open public consultation, mainly due to difficulties in identifying the buyer and detecting suspicious transactions

²⁶ Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative, Ernst & Young, 2018.

targeting the Frankfurt bike race, has been thwarted by the police with the help of a report from a retail store of a suspicious purchase of explosives precursor substances.

However, the evaluation has demonstrated that the level of reporting varies significantly between Member States. Recent attacks also showed that explosives precursors used for the preparation of HMEs have been purchased in physical shops, in some cases, through false claim of professional use or through online retail. Changes in the acquisition methods over the last years raise additional challenges. For example, information received suggests that a number of attempts to acquire explosives precursors for illicit purposes have been done at different times and through different methods, quantities and concentration levels, in order to avoid traceability and reporting.

2.1.2. Economic operators face unnecessary obstacles to the free movement of explosives precursors in the internal market

One of the main objectives of the Regulation is to create a level playing field for economic operators in the internal market while ensuring a high level of protection of the security of the general public. However, the evaluation has shown that operators face difficulties implementing the Regulation in their business activities. Obstacles related, among others, to the complexity of the framework or insufficient clarity on rules and obligations limit the freedom of movement of these substances. This causes market distortion and overcoming these hurdles is time-consuming and adds in some cases extra costs.

a) Barriers to competition within the EU

As confirmed in the course of the evaluation and stakeholder consultations, the different regimes in each Member State and the variety of requirements applicable across the EU are raising challenges for economic operators that conduct business throughout the EU.²⁷ Furthermore, differences may also create situations of unfair advantage and distorted competition, in particular in relation to registration regimes, when companies benefit from locating themselves or being located in Member States where the level of restrictions and controls is more lenient. If the rules differ or are not applied in the same way, there is no longer a level playing field for economic operators.

In addition, the lack of clarity of the Regulation also affects competitiveness. Most importantly, it is not clear how the verification of professional use should be done. Whereas for some economic operators, dealing mostly with other economic operators, this does not pose a problem; for other economic operators, dealing mostly with consumers, the assessment of whether a customer is a member of the general public or not generates uncertainty because there is no clear definition of what is professional use. Moreover, different Member States may have different approaches to this. In that regard, non-EU economic operators selling to consumers in the EU also have an advantage in comparison to EU-based economic operators, as they are not held responsible for verifying professional use.

²⁷Report from the Commission to the European Parliament and the Council on the application of, and delegation of power under, Regulation (EU) 98/2013 of the European Parliament and of the Council on the marketing and use of explosives precursors, COM(2017)0103.

b) Restrictions and controls are not always applied by online marketplaces

Feedback from consulted stakeholders²⁸ suggests that a shift towards online sales of explosives precursors have been observed. This shift stems from the rise of the online commerce in general, but is also related to the weaker controls applied to online marketplaces and limited reporting of suspicious online transactions of explosives precursors as compared to physical shops. Such a shift poses security concerns with regard to possible misuse of explosives precursors, but also raises concerns as regards possible distortion of competition between physical stores and online retail. Online suppliers being not always considered to be bound by the Regulation rules, they sometimes sell explosives precursors without verifying if the buyer is a member of the general public and without verification of licences and proper registration of the sale. This gives them a competitive advantage over conventional suppliers who are bound by the obligations in the Regulation.

²⁸ Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative, Ernst & Young, 2018.

2.2. What are the problem drivers?

The core problems mentioned above can be linked to the following drivers.

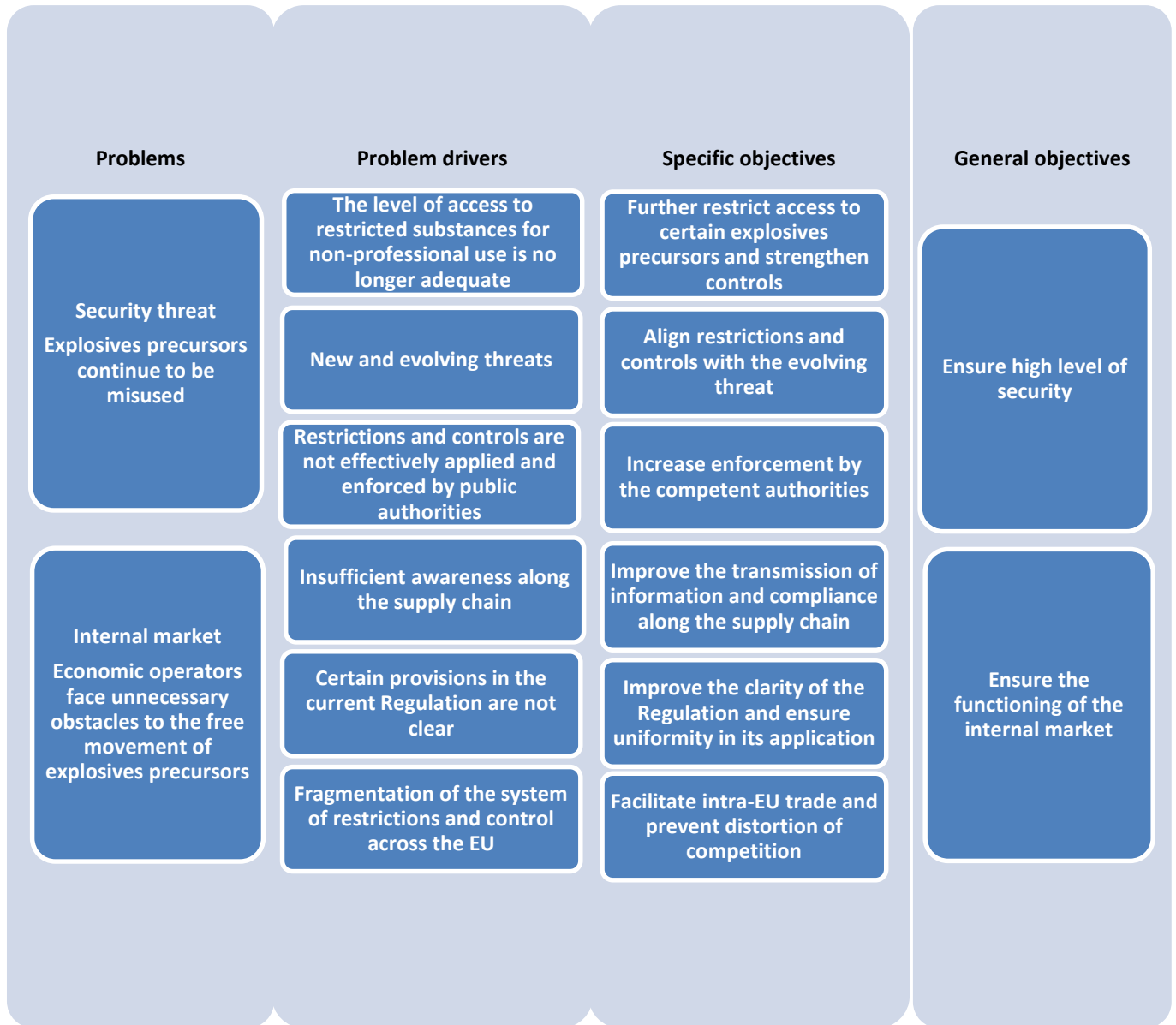


Illustration 1 - Problem tree

2.2.1. *The level of access to restricted substances for non-professional use is no longer adequate*

The evaluation confirmed that the Regulation covers substances that pose a security threat to the public but it also showed that the level of restriction applied to certain substances is not necessarily proportionate to the security concern they raise.

Some substances that are widely used for the production of HMEs in the EU are currently only subject to reporting of suspicious transactions, and remain widely available to the general public, including in high concentrations.

With regard to licences, the absence of **a common set of minimum requirements for granting or refusing a licence** leads to different rules and practices across the Member States with regard to type of information requested, reasons for refusal, rate of refusals, duration of validity, price of the service. Some Member States take the view that requests for a licence should be granted unless there is a stated reason not to, while others apply the opposite approach, refusing licences unless there is a specific reason to grant them.

With regard to registration, actual cases show that terrorists, especially those that are planning suicide attacks, have no problem identifying themselves when purchasing explosives precursor substances. The **registration regime is then neither an obstacle in accessing to precursors, nor is effective in alerting national competent authorities** (NCAs) if the registration list is not timely made available to law enforcement. Reportedly, there are a lot of cases where post-attack investigations discovered that the terrorists had been registered buying precursors on different locations with their real identity.

2.2.2. New and evolving threats

Existing threats have evolved and new security threats have appeared since the Regulation was adopted and entered into force in 2013. Terrorists are using new tactics and develop new recipes and bomb-making techniques, which are – at least in part – intended to circumvent existing restrictions and controls.

As a consequence, several substances which are not restricted under the Regulation pose a significant security threat. For example, sulphuric acid can be misused to manufacture TATP. Currently, it is listed in Annex II of the Regulation which means that it can be bought by members of the general public, without needing a license or registering the sale. The same is true for acetone and ammonium nitrate, which have been used to illicitly manufacture HMEs that were used to carry out attacks in the EU. Ammonium nitrate, which has also been illicitly used in this manner, was already restricted under Directive 76/769/EEC in 2008²⁹ and that restriction was transferred to Regulation (EC) No 1907/2006 in 2009³⁰.

Other new threats are related to the transfer of terrorist tactics, techniques and procedures from conflict zones to Europe and the spread of bomb-making knowledge and instructions, including for HMEs, by terrorists via online communication channels and social media. According to Europol³¹, some of the attackers involved in recent incidents had received information about and guidance on the illicit manufacture of HMEs via (in)direct contact with more experienced bomb-makers. The Internet also remains an important source of information on the fabrication of IEDs.

In this evolving context, it is important that, in case of new or evolved security threats, new substances of concern can be quickly added to the scope of the Regulation. Article 12 and 14 of the Regulation allow the Commission to adopt delegated acts only to add substances to Annex II and to

²⁹ Decision No 1348/2008/EC of the European Parliament and of the Council of 16 December 2008 amending Council Directive 76/769/EEC as regards restrictions on the marketing and use of 2-(2-methoxyethoxy)ethanol, 2-(2-butoxyethoxy)ethanol, methylsenediphenyl diisocyanate, cyclohexane and ammonium nitrate, OJ L 348, 108.

³⁰ Commission Regulation (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII, OJ L 164, 7.

³¹ Ibid.

change the limit values in Annex I where it is necessary to accommodate developments in the misuse of substances as explosives precursors³².

However, if new substances have to be restricted or current restrictions have to be revoked, due to a change in the risk assessment, the Commission has to adopt a legislative proposal, which has to undergo the ordinary legislative procedure³³. This creates significant time delays, which do not allow the legal framework to respond in a timely fashion to a rapidly evolving threat picture.

The criteria for determining which measures should apply to which explosives precursors are laid down in the Regulation (recital 20) and include: the level of threat associated with the explosives precursor concerned, the volume of trade in the explosives precursor concerned, and the possibility of establishing a concentration level below which the explosives precursor could still be used for the legitimate purposes for which it is made available. The criteria reflect the risk and threat level, whilst taking in consideration the economic importance and practical need of explosives precursors.

2.2.3. Insufficient awareness along the supply chain

Because many of the substances concerned by the Regulation are widely used household products, the supply chain is significantly more diversified and complex than that of other products subject to specific control provisions at EU level, such as drug precursors.³⁴ This poses a challenge for competent authorities to reach all economic operators in the supply chain to inform them of their duties. Competent authorities in some Member States have, in collaboration with chemical industry and retail sector associations, conducted awareness-raising campaigns and engaged with a wide range of operators — from manufacturers to retailers, big companies to small independent stores, and internet sellers to marketplaces.

Nevertheless, the evaluation showed that some economic operators have **very limited awareness of the Regulation and notably of their reporting obligations** resulting in considerable variation in the level of effectiveness of reporting mechanisms and therefore significant security risks across Member States.

The evaluation also showed different interpretations, and thereby uncertainty, along the supply chain as regards responsibilities for **labelling and information exchange on product content**. Retailers often consider economic operators in upper stages of the supply chain to be responsible for the identification and labelling of concerned products. In parallel, manufacturers do not consider themselves to be concerned by the labelling requirements of the Regulation as they do not make available restricted explosives precursors directly to the members of the general public. A recent

³² In 2016, the Commission exercised its power to adopt delegated acts to add three substances to Annex II, notably, aluminium powder, magnesium nitrate hexahydrate and magnesium powder C(2016) 7657 final.

³³ The Commission proposal for a Regulation on the marketing and use of explosives precursors initially proposed to give the Commission delegated powers to amend both Annexes. As the co-legislators were reluctant to provide the Commission with the power to add substances without their approval, this type of change requires a legislative proposal under the current Regulation.

³⁴ Council Regulation (EC) No 111/2005 of 22 December 2004 laying down rules for the monitoring of trade between the Community and third countries in drug precursors, OJ L 22, 1–10; Commission Implementing Regulation (EU) 2015/1013 of 25 June 2015 laying down rules in respect of Regulation (EC) No 273/2004 of the European Parliament and of the Council on drug precursors and of Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Union and third countries in drug precursors, OJ L 162, 33–64.

market research performed in one Member State showed that an important number of retailers are not aware that they are selling explosives precursor substances.³⁵

2.2.4. Restrictions and controls are not applied and enforced by public authorities in a sufficient or fully effective manner

The evaluation showed that the level of awareness about explosives precursors by relevant public authorities, such as customs, law enforcement, and first responders, is still not sufficient. As a result, a number of instances of misuse or illicit possession or sale might not be identified and the response to incidents involving explosives precursors might often not be sufficiently adequate.

Inspections are still not systematically carried out in all Member States. As a result, non-compliance by economic operators might sometimes go un-detected and penalties do not have the deterrent effect they should have.

Awareness-raising campaigns by public authorities have not reached the entire supply chain. Therefore, the quantity and quality of reports received by the NCPs still leaves much room for improvement.

Information of cross-border relevance is still not systematically exchanged between National Contact Points (NCPs) and/or competent authorities, hindering effective investigations and enforcement.

2.2.5. Fragmentation of the system of restrictions and control across the EU

The asymmetric application of the Regulation in different Member States affects the movement of regulated substances. When the Commission adopted its proposal in 2010, a Regulation was considered the most appropriate legal instrument as it would ensure the greatest degree of uniformity. However, the divergent restriction and control systems in Member States and their different interpretations of the Regulation have created uncertainties that affect the free movement of explosives precursor substances in the EU internal market and security gaps.

The Regulation introduces a ban on substances above a certain concentration limit for members of the general public. Member States may, however, opt for a licensing or a registration regime to allow access of the general public to certain restricted substances. Twenty Member States have established bans for members of the general public to different restricted explosives precursors, of which **twelve Member States apply a ban** to all restricted substances under the Regulation and **eight Member States apply a combination of regimes** of a ban and registration (5), a ban and licencing (2) or a ban and registration and licencing (1). Another **eight Member States have put in place a licencing regime** for all restricted substances.

Economic operators that conduct business across different countries have to adapt to the specific regime of each Member State in which they make a product available. If a substance or mixture is restricted, an economic operator will have to:

- register the supply of the product to a member of the general public in Member States with a registration regime;

³⁵ Impact Assessment of the EU Regulation on the Marketing and Use of Explosives Precursors, UK Home Office, 2014. Available online: https://www.legislation.gov.uk/ukia/2014/237/pdfs/ukia_20140237_en.pdf.

- check the validity of the licence of the member of the general public in Member States with a licensing regime;
- refuse making the product available to the member of the general public in Member States with a ban.

Ensuring compliance with the different regimes is a complicated, time-consuming and resource-intensive process. The majority of the respondents to the targeted consultation, more than 65%, are of an opinion that the issue of market distortion in the context of the Regulation of explosives precursors requires further action at EU level (see Annex 2).

In addition, some Member States apply restrictions and controls to non-listed explosives precursors or tighter restrictions to substances that are listed. Five countries³⁶ currently have additional restrictions in place. Member States are allowed to have stricter measures in place, if they have reasonable grounds to believe that the substances concerned could be used for the illicit manufacture of explosives and have notified the Commission.

However, even if Member States have the same regime, procedures for obtaining licenses vary per country. For instance, the criteria for granting or refusing licenses differ per Member State, as do the length and type of validity of the licence. Notably, the existence of alternative substances or mixtures, which can be used for a same legitimate non-professional purpose but pose less security concerns, is taken into account to varying degrees in the assessment of licence applications. The verification of criminal records is not done systematically in all Member States before granting licenses. Conditions to holding a licence, concerning storage and the reporting of thefts or disappearances, also vary.

The fragmentation of the system of restrictions and controls across the EU raises also concerns as regards competition, making it easier and cheaper for operators to supply explosives precursors to the general public in Member States that have lower control levels or impose fewer restrictions. Finally, terrorists and criminals can also exploit these differences to obtain explosives precursors. The substances acquired, or HMEs manufactured with these substances, could potentially be used anywhere in Europe, lowering security across the Union. One Member State reported at least 6 examples where individuals based in countries with more restrictive regimes have acquired explosives precursors in that Member State. As these transactions were identified as suspicious, this led to investigations and arrests for the illicit manufacture of explosives.

2.2.6. Certain provisions in the current Regulation are not clear

The evaluation has showed that many differences and shortcomings in the implementation of the Regulation were due to a lack of clarity in its provisions. There are different areas of uncertainties.

The first relates to significant difficulties in identifying legitimate users, namely at the point of sale due to the lack of relevant definitions or the lack of clarity in the current definitions set out in the Regulation.

Consultations of public authorities and economic operators have repeatedly shown that identification of legitimate users at the point of sale is one of the major problems faced by industry, notably the retail sector. The Regulation does not provide a definition of professional users, but it

³⁶ Ireland, Germany, Denmark, Malta, Norway.

nevertheless requires economic operators to report suspicious transactions involving such users and to consider professional use in their assessment of whether a customer is a member of the general public or not.

This lack of clarity in the Regulation poses both issues of compliance of economic operators as well as security concerns. Legal entities fall outside the scope of the general public, as defined in the Regulation. As a result, any legal entity is implicitly allowed to introduce, possess or use explosives precursors, regardless of whether the access to these substances is necessary for the conduct of the entity's professional activities.

The lack of provisions as regards professional users creates legal uncertainties for both competent national authorities and economic operators and pose practical difficulties for the identification of such users, notably at the point of sale. Recent terrorist attacks in Europe have shown that restricted explosives precursors have been purchased through the general supply chain for illicit use with the false claim of professional use.

The existing uncertainties are part of the problem because the lack of clarity and certainty has resulted in differences in the interpretation and application of the Regulation. If the rules differ or are not applied in the same way, there is no longer a level playing field for economic operators. A very concrete example of a case where uncertainty has led to an uneven playing field is the online sale of restricted substances. The Regulation applies to the off- and online supply of explosives precursors but it does not explicitly mention that the obligations on economic operators also apply to online sales, whereas online operators deliver products and services on the market just like offline economic operators do. Online suppliers are therefore not always considered to be bound by these rules, which means that they are selling explosives precursors without verifying if the buyer is a member of the general public and without verification of licences and proper registration of the sale³⁷. This is a very important security gap³⁸ and also gives those online suppliers a competitive advantage over conventional suppliers who are bound by the obligations in the Regulation, as well as over online suppliers that correctly apply the Regulation. The lack of clarity regarding the scope of application of the Regulation hence causes market distortion

The importance of exploring opportunities to ensure the unified application of the Regulation was highlighted in a REFIT platform opinion. The platform examined two suggestions, one concerning the national implementation of the Regulation and one regarding the many uncertainties related to Regulation's implementation. The REFIT platform acknowledged the divergent application of the Regulation and recommended the Commission to look into this issue during the revision of the act.

2.3. How will the problems evolve?

All things being equal, the Regulation would remain in force and would continue to be applied. As observed in the evaluation, the Regulation remains relevant to the current EU context and is addressing relevant and continuing needs. However, the identified problems, which have emerged in spite of the Regulation and have not been resolved within the existing framework and will continue to exist without the absence of EU intervention. As the unnecessary barriers and uncertainties faced by the supply chain will persist, the functioning of the internal market will continue to be hampered. Misuse of explosives precursors is also expected to remain a problem, if

³⁷ Final report E-commerce II, Chemical Legislation European Enforcement Network, 2016 via: <http://www.cleen-europe.eu/projects/ecommerce-ii.html>.

³⁸ See the example of the 2011 Norway attacks as described in Annex 3.

terrorists and criminals will continue to have access to these substances. It is hence more likely that the threat to security will increase rather than decrease.

Several factors may affect the evolution of the identified problems:

- **Technological developments** could influence the identified problems in different ways. Firstly, there is a risk that social media and the Internet will be increasingly used to spread instructions to make HMEs. Europol has reported that terrorists are using online services, including social media platforms and file sharing sites, in diverse ways to communicate for this purpose.³⁹ Various websites and platforms contain detailed instructions and recipes for the manufacture of HMEs⁴⁰. There also appear to have been transfers of terrorist tactics, techniques and procedures from conflict zones (e.g. Syria, Iraq) to Europe via online communication channels.⁴¹ If these trends persist and instructions for the manufacturing of HMEs from explosives precursors can be easily found and accessed, this will raise the security threat.

Besides learning how to make HMEs, terrorists can also use the Internet and the dark web to acquire explosives precursors. A large proportion of the stakeholders interviewed for the preparatory study for this impact assessment expressed concerns about the online market and access to potentially dangerous substances⁴². Currently, only a small percentages of explosives precursors online. A study from 2010⁴³ estimated the online sales of explosive precursor substances at 0.5% of the total sales to the public, yet the percentage is likely to have increased. A research project on the illicit trade of firearms, explosives and ammunition on the dark web examined concluded that the dark web has the potential to become the platform of choice for lone actors and small groups to obtain weapons and ammunition behind the anonymity provided by the dark web.⁴⁴

An increased use of the Internet and online sales platforms, including for the purchase of restricted explosives precursors, could also further exacerbate problems with the enforcement of the Regulation. Various retailers supply explosives precursors to online customers internationally; including 56% in Italy, 45% in the UK and 27% in the Netherlands.⁴⁵ If the scope of the Regulation is not clarified and the offer of restricted explosives precursors online grows, it will become even more difficult for conventional suppliers to compete.

- **Scientific progress** could also affect the evolution of the problems. Scientists could discover **new products**, whose chemical compounds would work in the same way as regulated explosives precursors, but could not be used to manufacture HMEs. Alternatively, already existing **alternative substances** could be further developed and improved. **Inhibition** (i.e. preventing or mitigating chemical reactions such as explosions by adding an inhibitor to a

³⁹ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol.

⁴⁰ The EU funded research project HOMER built a knowledge database mapping which HME recipes are available on the internet and the darkweb. <http://www-homer-project.eu>.

⁴¹ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol.

⁴² Internet sales of explosives precursors raise concerns for 77% of respondents, mainly due to difficulties in identifying the buyer and detecting suspicious transactions.

⁴³ GHK, Rand Europe and Comstratos, 2010. Preparatory Study to Inform an Impact Assessment of Potential Legislative and Non-legislative Restrictions on Chemical Precursors to Explosives.

⁴⁴ RAND Europe, 2017: "Behind the dark curtain: the illicit trade of firearms, ammunition and explosives on the dark web", https://www.rand.org/pubs/research_reports/RR2091.html.

⁴⁵ DJS Research, 2015, "Hazardous Chemicals Research debrief prepared for: Anne-Marie Fry, Policy Lead Hazardous Site and Substances, Home Office, OSCT".

substance or mixture) could also help to reduce the security threat. A fair amount of research on these topics has already been carried out⁴⁶, but additional research efforts could result in the development of marketable solutions.

Advances in chemistry related to explosives and explosives precursors are for instance disseminated in scientific papers published in international scientific journals. The methodological/experimental sections of these articles contain detailed information which should allow the reproduction of the experiment. Some of the stakeholders who were interviewed for the preparatory study carried out in preparation of this impact assessment, expressed concerns about the **potential misuse of developments in chemistry for the purpose of manufacturing HMEs**. Some experts have therefore advocated restricting access to open-access scientific journals to avoid misuse of scientific developments.

- **An evolution of the terrorist threat** is likely to be reflected in the modus operandi and frequency of attacks. As such, an evolution of the terrorist threat could impact misuse of explosives precursors for the illicit manufacture of HMEs. In the EU, IEDs have been used by terrorists across the spectrum (i.e. jihadists, ethno-nationalists and separatists, anarchists and left-wing terrorists, and extreme right wing terrorists). However, most of the recent attacks involving IEDs, and particularly those aimed at soft targets, were carried out by jihadists. According to Europol, the threat posed by jihadist terrorism remains high and there are indications that the threat level in the EU will continue to increase.⁴⁷ The return of foreign terrorist fighters from (former) conflict zones in Syria and Iraq might further exacerbate this trend. Returnees have been subject to prolonged ideological indoctrination, were often trained to use weapons and explosives and may have established links with other foreign fighters.⁴⁸ Their return to Europe facilitates the transfer of tactics, techniques and procedures from conflict zones (which was already mentioned in the section on technological developments in reference to transfers via online communication channels) and the exploitation of current security gaps on restrictions of explosives precursors. This transfer is expected to lead to tactical and technological advancements, such as the use of (suicide) vehicle-borne IEDs, which are already used in Syria and Iraq.⁴⁹

3. WHY SHOULD THE EU ACT?

3.1. Legal basis

As Regulation (EC) No 98/2013 regulates the marketing and use of explosives precursors its legal basis is Article 114 of the Treaty on the Functioning of the European Union (TFEU), which concerns the functioning of the internal market. In accordance with Article 4(2) TFEU, the EU does not have exclusive competence in this area, and shares its competence with the Member States. The subsidiarity principle hence applies and needs to be assessed.

⁴⁶ Through the European research and innovation framework programmes the Commission financed two research projects on inhibition: PREVAIL (PREcursors of ExplosiVes: Additives to Inhibit their use including Liquids) in 2010-2013 and EXPEDIA (EXplosives PREcursor Defeat by Inhibitor Additives) in 2014-2018. Some Member States have also financed their own research.

⁴⁷ EU Terrorism Situation and Trend Report (TE-SAT) 2017, Europol.

⁴⁸ Ibid.

⁴⁹ IHS, 2018, "European Terrorism Forecast: Trends in Islamist Militancy in 2018."

3.2. Subsidiarity: Necessity of EU action

The need for EU action was already acknowledged in 2013 when the Regulation was adopted. Given the transnational nature of the problems described in the previous chapter, the need for EU action is even stronger today.

As showed by the attacks involving HMEs carried out in several different Member States e.g. (Belgium, France, Germany, Spain, United Kingdom), while plots were thwarted in various other Member States, the threat posed by HMEs remains high across the EU. Different security levels resulting from the different interpretations that Member States provide on the current Regulation have an impact on the overall security of the EU.

Different rules and practices may also be exploited to illegally acquire explosives precursors. If terrorist and criminals can obtain explosives precursors in Member States with fewer restrictions and/or lower control levels and use these substances to commit attacks in other Member States, this is impacting the security of each Member State and raise security concerns at EU level. EU intervention is necessary as this practice can only be prevented if Member States harmonise their control systems and enforce the rules uniformly.

The differences in the practical application of the Regulation affect economic operators throughout the EU when they sell or buy products intra-EU. This is an internal market problem, which limits the freedom of movement of explosives precursors in the EU. The problem cannot be solved by unilateral actions of Member States, because the barriers and uncertainties stem from differences between Member States' laws and procedures. Similarly, the uncertainties about the existing EU framework ask for an EU solution, as national measures would only lead to different interpretations of the Regulation.

3.3. Subsidiarity: Added value of EU action

The evaluation showed the added value of the current Regulation in regulating the marketing and use of explosives precursors. According to the consulted stakeholders the strongest added value of a possible EU intervention in this area are:

- Creating a level playing field for on and offline suppliers: whilst the Regulation applies to the on- and offline supply of explosives precursors, the rules are not always correctly applied to online transactions, which distorts competition. EU action could help to close this gap and create a level playing field for conventional and online suppliers.
- Stimulating cooperation between public and private entities: more and better collaboration between public and private entities could improve reporting and help to raise awareness along the supply chain. Cooperation would help to strengthen controls along the supply chain and would provide for opportunities to exchange knowledge and experiences.
- Facilitating cross-border exchange of information: Regulation 98/2013 has had a positive effect on cross-border information exchange, particularly through exchanges between national authorities within the context of the SCP. These exchanges are important, because the misuse of explosives precursors to fabricate HMEs is a cross-border issue. EU action

could strengthen and facilitate information exchange across borders by encouraging information sharing and providing a forum to exchange information.

Improving the capacity of Member State authorities to enforce the restrictions and controls that are in place, and to implement penalties where there are infringements, is key also to ensuring a good functioning of the internal market. In the absence of an appropriate level of enforcement in some Member States, others might judge it necessary to adopt measures at national level that go beyond the remit of this Regulation. This would have a negative effect on the free movement of people and goods and services across the Union.

4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

4.1. General objectives

There are two general policy objectives:

- 1) Ensure high level of security through measures to prevent and combat crime
- 2) Ensure the functioning of the internal market, preventing distortion of competition or trade barriers

4.2. Specific objectives

In light of the identified problems and the general objectives, the specific objectives are:

- Further restrict access to certain explosives precursors and strengthen controls;
- Align restrictions and controls with the evolving threat regarding explosives precursors;
- Increase enforcement by the competent authorities of the Regulation;
- Improve the transmission of information and compliance along the supply chain;
- Facilitate intra-EU trade and prevent distortion of competition
- To improve the clarity of the Regulation and ensure uniformity in its application.

The Problem tree in section 2.2 presents a comprehensive overview of the problems, problem drivers and the general and specific objectives identified and their links.

5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

The following policy options are available:

- **Policy option 0 (*baseline*)** – The Commission, in consultation with the SCP, will continue to monitor and facilitate the application of the Regulation;

- **Policy Option 1** (*Non legislative*) – Reinforce the application of the Regulation with non-legislative measures;
- **Policy Option 2** (*Legislative*) – Strengthen and clarify the restrictions and controls of the Regulation
- **Policy Option 3** (*Legislative*) – Introduce further controls along the supply chain.

These policy options were designed around an increasing level of intervention (i.e. no EU action, non-legislative measures, and legislative measures). After having defined the problems and problem drivers, for each policy option measures were identified that addressed all the issues and corresponded to the level of intervention and the level of restriction. It was ensured that each policy option includes a set of measures that address all the identified problems and problem drivers and that the different measures are consistent in their level of restrictiveness and overall approach to the problems. Each policy option and the related policy measures are described in the following sections.

5.1. Description of the policy options

5.1.1. Policy Option 0 – Baseline

The baseline scenario would imply maintaining the situation under the current legal framework with no additional legislative or non-legislative EU initiatives.

Under the status quo, the three-tiered system of regimes and controls of the marketing and use of explosives precursors, i.e. a ban, licensing and registration regime, will be maintained. Access of the general public to restricted explosives precursors will be possible for up to 7 substances from Annex I through licenses and for up to three substances from Annex I through registration. No additional explosives precursor substances will be restricted for the general public and an ordinary legislative procedure will be required for adding new threat substances to the list of restrictions. Member States may restrict or prohibit the marketing and use of an explosives precursor not listed in the Annexes, if they have reasonable grounds for believing that that substance could be used for the illicit manufacture of explosives. Since the entry into force of the Regulation, four Member States have notified additional restrictions to the Commission. How this will develop in the future depends on the substance, evolution of the threats and the manner in which the EU takes action. Without EU action, some Member States are expected to introduce national restrictions on sulphuric acid. Professional users will not be explicitly covered by the Regulation.

The Commission, in consultation with the SCP, will continue to monitor and facilitate the application of the Regulation.

5.1.2. Policy Option 1 – Reinforce the application of the Regulation with non-legislative measures

This policy option would entail the introduction of non-legislative measures aimed at reinforcing the application of the existing legal framework. A number of Member States and different actors in the supply chain have in the past undertaken voluntary efforts to exchange information, increase the level of awareness and engagement of the relevant economic operators and public authorities, and adopt codes of conduct and guidance. The Commission also co-organised⁵⁰ a series of regional

⁵⁰ Together with the UK Home Office.

workshops for Member State authorities, in 2016-2017, and the SCP and SCP Members and Observers have produced guidance materials to facilitate compliance with the restrictions and controls and to strengthen important aspects of the security of explosives precursors on a voluntary basis.

The consultation of stakeholders gives evidence that voluntary efforts have markedly contributed to the effectiveness and efficiency of the restrictions and controls in place. However, initiatives are now concentrated in a handful of Member States and supply chain actors. This policy option would involve EU action to promote and facilitate non-legislative measures across the Union, in a coordinated and targeted way. The following measures are foreseen:

- **Establishing an SCP sub-group to regularly discuss the evolving threat posed by explosives precursors and identify security gaps as they arise.** In accordance with Article 14 of the Commission Decision establishing horizontal rules on the creation and operation of Commission expert groups,⁵¹ the Commission may establish sub-groups for the purpose of examining specific questions. The mandate of the SCP is currently rather broad and includes: monitoring and implementing the enforcement of the Regulation, facilitating a harmonised implementation of the Regulation across the different competent authorities, exchanging views and preparing delegated acts and legislative proposals. The sub-group would focus specifically on new and evolving threats (e.g. changes in the substances used to manufacture HMEs, new methods to gain access to explosives precursors, shift to lower concentration levels, etc.) and exchange information to identify and address security gaps before terrorists can misuse them. The procedure for adding substances to the Annexes of the Regulation would remain unchanged. Both general and sector-specific trends would be taken into account, and special attention would be paid to operational and investigative developments and to the experiences of Small and medium-sized enterprises (SMEs). The group would involve both Member States' representatives and supply chain actors, and could include individuals who are not participating in the SCP. Meetings would be organised in a classified setting if the topics discussed would require so. The sub-group's work would feed into the work of the SCP and support the Commission.
- **Tasking Europol and the EU Intelligence and Situation Centre (EU INTCEN) to regularly report to the SCP.** Europol, the EU's law enforcement agency, enables the exchange of crime-related information, gathers and analyses intelligence and provides threat assessments. The European Counter Terrorism Centre (ECTC), which operates within Europol's regulatory framework and organisational structure, aims to provide an effective response to terrorism by providing operational and strategic support to Member States. EU INTCEN provides assessments and briefings and a range of products based on open sources and intelligence from Member States' intelligence and secret services. The Commission would request Europol and EU INTCEN to prepare regular reports for the SCP on the evolution of the threat posed by explosives precursors. Tasking Europol and EU INTCEN to provide such updates would improve awareness of new and evolving threats and facilitate information sharing between Member States. If necessary, the reports could be accompanied by presentations and/or discussions during the meetings of the SCP.

⁵¹ Commission Decision establishing horizontal rules on the creation and operation of Commission expert groups, COM(2016)3301.

- **Adopting a Commission recommendation setting out detailed recommendations for licensing and registration regimes.** To reinforce the existing restrictions the Commission would issue a recommendation with guidelines through which Member States could make their licensing and registration systems more robust. The recommendation would be based on good practices and would go beyond the existing guidance documents produced by the Commission. An overview of the topics that would be addressed in the recommendation can be found in Annex 10.
- **Organising dedicated workshops on enforcement for public authorities and develop guidelines.** The Commission, in cooperation with Member States, would organise a series of dedicated workshops on the enforcement of the Regulation. The workshops would be targeted at national authorities such as law enforcement, customs, inspections, and first responders. The workshops would result in the adoption, where possible by consensus, of guidelines. Issues that could be addressed in these guidelines would include:
 - Overview of possible surveillance activities with concrete examples of good practices;
 - Clarification of the role of customs and best practices for custom's controls;
 - Clarification of reporting obligations (incl. type of information, procedures, actors involved, format, etc.);
 - Training and awareness raising targeted at first responders.
- **Establishing an SCP sub-group for inspection authorities.** Similarly, to the first measure described under this option, this action would entail the creation of an SCP sub-group. This sub-group would organise separate meetings specifically aimed at representatives of national inspections authorities. The focus of this group would be on reporting, surveillance and inspection activities. The group could serve as forum to exchange information as well as a platform to share best practices.
- **Organising dedicated workshops for the different actors in the supply chain.**

Besides the workshops on enforcement for public authorities, the Commission with support of the Member States would organise a series of targeted workshops aimed at the different actors and sectors (e.g. pharmaceuticals, cosmetics, fertilisers, etc.) in the supply chain. The focus would be on challenges to compliance for supply chain actors and good practices. Based on the input and feedback received during the workshops, the Commission would prepare guidelines for the supply chain. Issues that could be addressed in the guidelines would include:

 - Differences between professional users and members of the general public;
 - Correct implementation of the labelling requirement;
 - Identification of suspicious transactions;
 - Reporting of suspicious transactions, disappearances and thefts.

- **Promoting public-private dialogue between public authorities and online operators.** The Commission would support an initiative to regularly bring together public authorities and online companies and marketplaces, in an effort to build a self-sustaining public-private dialogue around the risks related to the internet availability of explosives precursors. The aims of the initiative would be to both increase the understanding of the threat and vulnerabilities relating to the online market of chemicals and identify good practices to support prevention and detection. Among other topics, key challenges to discuss are the identification of products of concern, the short timeframe from order to dispatching and acquisition, cross-border transactions, the criteria for identifying suspicious transactions online, strategies for detecting non-compliance, and strategies for detecting multiple purchases across different marketplaces. This measure would address the concerns raised about online sales of explosives precursors.

5.1.3. *Policy Option 2 - Strengthen and clarify the restrictions and controls of the Regulation*

The measures in this policy option clarify and amend the existing legal framework. They do not touch upon the essential characteristics of the Regulation, but strengthen and clarify existing restrictions on making available explosives precursors to members of the general public. More details are provided on how the supply chain and competent authorities can improve compliance with the Regulation. The second policy option encompasses the following measures:

- **Expanding the scope of restricted explosives precursors.** The current Regulation restricts the access to, and use of, seven restricted explosives precursors by members of the general public. This measure aims to expand the list of restricted precursors in Annex I with two more chemical substances that are frequently used for the making of HMEs, such as TATP, namely ammonium nitrate and sulphuric acid. Sulphuric acid would be added to Annex I of the Regulation. Illicit explosives used in several terrorist attacks committed in the EU in the recent years have been manufactured with sulphuric acid. The placing on the market of sulphuric acid is already regulated in the EU due to its hazardous properties as a skin corrosive chemical substance (Annex VI of Regulation (EC) 1272/2008). Below the concentration limit of 15% w/w set in column 2 of Annex I, it is significantly more difficult to manufacture illicit explosives with sulphuric acid, while it could still be used for the legitimate purposes for which it is made available. Although the volume of trade in sulphuric acid in the EU is significant, it is estimated that only around 0,5% of the sold product is made available to members of the general public.
- **Adopting a faster procedure to add restricted explosives precursors.** In order to swiftly accommodate developments in the misuse of substances as explosives precursors the Commission would be given the power to adopt a delegated act to list additional substances that are not to be made available to the general public. The criteria for assessment would include the level of threat associated with the explosives precursor concerned, the volume of trade in the explosives precursor concerned, and the possibility of establishing a concentration level below which the explosives precursor could still be used for the legitimate purposes for which it is made available. The Commission currently already has the power to change the limit-values of these restricted explosives precursors.
- **Discontinuing the use of registration regimes.** Instead of banning the access and use of restricted explosives precursors by members of the general public, the Regulation allows Member States to set up a registration scheme for three of the seven restricted explosives

precursors, namely hydrogen peroxide, nitromethane and nitric acid. By discontinuing the possibility for these regimes under the Regulation, the general public would no longer be allowed to access and use these precursors through a mere registration of their transaction. The discontinuation of licensing schemes was considered at an early stage under this option. However, licensing is seen as a proportionate measure, which provides a balance between legitimate use and the need to protect. The majority of Member States⁵² with a licensing regime consider licensing as effective and efficient in preventing and detecting misuse and encouraging a behavioural shift of consumers towards available alternatives or lower concentrations, without restricting the free movement of explosives precursors. Stakeholder views confirmed this assessment. It was therefore decided that including the discontinuation of licensing schemes as a measure under policy option 2 would be too radical.

- **Reducing the scope of and set an upper concentration limit for licensing.** Member States would be allowed to set up or have in place licensing regimes, but licenses could only be requested for a limited number of restricted explosives precursors for which there exists substantial legitimate use by members of the general public (i.e. only the already restricted hydrogen peroxide, nitromethane and nitric acid and the newly proposed sulphuric acid). Moreover, an upper limit will be set for those substances. Above that limit, no licence may be issued as there is no substantial legitimate use for it by the public. This is already reflected in the Regulation, which sets the same upper limits in registration regimes for acquiring the precursors concerned. That means that a complete ban for members of the general public without any exception would be established for the four other substances currently listed in Annex I of the Regulation above the concentration limit set out therein. As described in the evaluation, these four substances are already banned in 20 Member States and have generated virtually no demand for use by members of the general public in the eight Member States, in which licenses can be requested. The table below provides a schematic overview of the measures explained above.

Name of the substance and Chemical Abstracts Service Registry number (CAS RN)	Limit value	Upper limit value for the purpose of licensing
Hydrogen peroxide (CAS RN 7722-84-1)	12 % w/w	35 % w/w
Nitromethane (CAS RN 75-52-5)	16 % w/w	40% w/w
Nitric acid (CAS RN 7697-37-2)	3 % w/w	10% w/w
Potassium chlorate (CAS RN 3811-04-9)	40 % w/w	N/A

⁵² National assessments of the effectiveness of the Regulation: 60% (n=6) report that the licensing regime has been an efficient and preferred measure for limiting the availability of explosives precursors.

Potassium perchlorate (CAS RN 7778-74-7)	40 % w/w	N/A
Sodium chlorate (CAS RN 7775-09-9)	40 % w/w	N/A
Sodium perchlorate (CAS RN 7601-89-0)	40 % w/w	N/A
Ammonium nitrate (CAS RN 6484-52-2)	16 % by weight of nitrogen in relation to ammonium nitrate	N/A
Sulphuric acid (CAS RN 7664-93-9)	15 % w/w	40% w/w

- **Harmonising the circumstances to be taken into account by the competent authorities when issuing licenses.** The Regulation currently requires the competent authorities to take into account all relevant circumstances, and in particular the legitimacy of the intended use. This would be detailed by taking into account specifically the availability of lower concentrations or alternative substances that would achieve a similar effect, the proposed arrangements to ensure that the restricted explosives precursor is kept securely and the background of the individual applying for a licence, in particular his or her criminal records. A uniform template for national licences will be annexed to the Regulation to facilitate the mutual recognition of licences between Member States that apply a licensing regime.
- **Addressing the definitions of "member of the general public" and "professional user".** The concepts of member of the general public and that of professional user are meant to be mutually exclusive, because restricted explosives precursors can be made available to professional users. The Regulation only defines the concept of members of the general public to which restrictions apply. In this option, the definition of member of the general public will be extended to cover also legal persons when they are acting for purposes not connected with trade, business or profession. A definition of professional user would be inserted in the Regulation.
- **Clarifying the labelling obligation.** The labelling provision of the Regulation will be changed to make clearer on which economic operator the obligation to label applies. The provision will also be amended to clarify that this obligation applies irrespective of the regime that is applied in the Member State of sale. This measure would strengthen controls and transfer of information along the supply chain.
- **Require retail to make personnel involved in sale aware of the obligations of the Regulation and perform checks.** Retailers are to ensure that their personnel involved in the sale to members of the general public is aware of the products that it offers and that contain explosives precursors, and demonstrably instructed regarding the obligations of the Regulation at this point in the supply chain. The checks as to licences would be reinforced by an identity check and retail would also be required to verify that any new prospective customer is a professional user.

- **Clarifying that the Regulation also applies to companies operating online and establish guidelines.** The Regulation will clarify that its restrictions and controls, and obligations on the supply chain, including retail also apply to companies operating online. As such, it is clear that online sales of explosives precursors would be within the scope of the Regulation and that restrictions also apply to online supply of the concerned substances. Dedicated discussions in the SCP would result in the adoption, if possible by consensus, of guidelines on the issue.
- **Requiring Member States to set up inspection authorities, training and awareness-raising.** The Regulation will require Member States to set up inspection authorities that are competent to inspect and control the correct application of the Regulation. Member States will also be required to provide training for law enforcement, first responders and customs authorities to recognise explosives precursors during the course of their duties and to react in a timely and appropriate manner to suspicious activity. Member States will also be required to organise awareness-raising actions, targeted to the specificities of each different sector using explosives precursors.
- **Requiring members of the general public and professional users to report significant disappearances and thefts.** The Regulation will expand the duty to report significant thefts and disappearances of substances in their possession to professional users and members of the public who have access to restricted substances.

5.1.4. Policy Option 3 – Introduce further controls along the supply chain

Under this policy option, the existing legal framework would be revised in a significant way through a legislative intervention that would modify the essential characteristics of the current Regulation. The revision would introduce new controls along the supply chain and create additional obligations for the different actors involved. Proposed measures would include:

- **Revising Annexes I and II –taking a more proactive approach.** At present, the Regulation covers eighteen explosives precursors: seven substances are restricted and eleven others are only subject to a reporting of suspicious transactions obligation. New substances can be added to the Annexes to accommodate developments in the misuse of substances as explosives precursors. This decision is taken on the basis of several criteria: the level of threat associated with the substance(s) concerned; the volume of trade in the concerned explosives precursor(s); and the possibility of establishing concentrations below which the substance(s) could still be used for the legitimate purpose(s). The criteria would remain the same under policy option 3, but the first criterion (threat level) weighs heavier than the other two. Moreover, instead of responding to incidents by adding substances that have been used in attacks, the list of regulated substances would be revised and substances that have not (yet) been misused in Europe but which could be used to manufacture HMEs and/or have been used for this purpose in other regions, would be added. As a result, the scope of the Regulation would be extended and more substances would be covered by the restrictions. Many potentially dangerous substances would be restricted and would no longer be available to members of the general public due to their potential misuse. Limit values would also be lower than currently is the case to minimise the risk.
- **Requiring reporting of suspicious transactions of non-scheduled substances.** On top of the revision of the two Annexes, the Commission would also extend the reporting obligation

and require economic operators to report *all* suspicious transactions, including those that concern non-scheduled substances. By redefining the scope of the obligation this way, the requirement becomes a ‘catch all clause’. As such, it could help to prevent the misuse of substances that have (not) yet been identified as potentially dangerous explosives precursors. It would also encourage economic operators to monitor their transactions better and to ensure that they know exactly what they are selling, in which quantities, to whom.

- **Introducing a full ban on restricted explosives precursors for members of the general public (including online sales).** This measure would revoke the exemptions for Member States to set up and maintain licensing and registration regimes, in order to give members of the general public access to restricted explosives precursors above certain concentrations. The introduction of a full ban would end the three-tiered system that currently exists and harmonise Member States’ regimes. Whilst this change would not affect the Member States that already have a ban, it would represent a major change for the countries that have licensing or registration systems in place. The acquisition, possession and use of restricted explosives precursors above certain limit values would be limited to professional users, who need these substances for their profession, business or trade. Members of the general public, even if they intend to use the concerned products for legitimate purposes, would no longer be allowed to have access to restricted explosives precursors. This ban would equally apply to online sales of restricted explosives precursors.
- **Requiring the registration of transactions involving professional users.** To monitor the use and acquisition of restricted substances by professional users, a new obligation would be introduced which would require the registration of all transactions of restricted substances involving professional users. The procedure would be very similar to the system currently foreseen for the registration of transactions involving members of the general public. The register would have to be kept for five years from the date of the transaction and should be available at any time for inspection. The following information would be included in the register: the name, address and the VAT number of the users concerned; the name of the substance(s) or mixture(s) and the concentration(s), the amount of the substance or mixture concerned; the date and place of the transaction, and the signature of the professional user.
- **Requiring electronic registrations of transactions involving professional users to be forwarded to the competent authorities in real time.** In addition to introducing a requirement concerning the registration of transactions of explosives precursors listed in Annex I involving professional users, policy option three also foresees the real time transfer of the data concerned to the competent authorities. By forwarding information about transactions involving restricted substances to the competent authorities, relevant services would be aware of all transactions involving professional users that are taking place. In case of a suspicious transaction, the authorities could directly intervene and trace the professional user involved in the transaction. If necessary, the information could be shared with other Member States’ authorities. This requirement would probably require the creation of an IT system connecting economic operators to the competent national authorities and allowing real time exchanges of information or another solution to transfer the electronic information to the competent authorities.
- **Requiring the registration of economic operators at national level.** Economic operators who intend to manufacture, distribute or sell regulated substances (Annex I and/or Annex II)

and/or mixtures/substances containing them, would be required to register in a national register. In order to be registered they would have to provide the following information: name, address, VAT number; contact details, and the activity for which they need the concerned substances/role in the supply chain.

Such a register would not only provide a comprehensive overview of the different actors involved in the supply chain, it could also help the competent authorities to identify relevant economic operators and target them in their awareness campaigns.

- **Requiring the labelling of Annex I and Annex II substances and mixtures.** The current Regulation requires economic operators who intend to make restricted explosives precursors (Annex I) available to members of the general public to label their products. The label signals that the product concerned is subject to certain restrictions. Under policy option three, members of the general public would no longer have access to substances listed in Annex I. Nevertheless, economic operators would be required to label all regulated explosives precursors (Annex I and Annex II) and/or substances containing them. This would facilitate the identification of explosives precursors and help to raise awareness. The label for restricted substances would clearly indicate that the product should not be made available to members of the general public. The label for substances listed in Annex II would state that suspicious transactions involving the substance concerned should be reported.
- **Requiring information on explosives precursors to be incorporated in bar codes.** To improve the transmission of information along the supply chain, economic operators would be required to include information on the restriction and reporting obligations in the barcodes of substances and mixtures of concern. Bar codes are already used to transfer a variety of (product) information, such as: type of product, serial number, lot number, expiration date, etc. By transmitting information about the applicable requirements in the barcode, the different actors in the supply chain are automatically when they scan the code. This requirement would only apply to products that bear a bar code, it does not impose an obligation on economic operators to use bar codes, if they do not do so yet.

Policy option 1	Policy option 2	Policy option 3
<i>Establishing an SCP sub-group to regularly discuss the evolving threat posed by explosives precursors and identify security gaps as they arise.</i>	<i>Expanding the scope of restricted explosives precursors.</i>	<i>Revising Annexes I and II – taking a more proactive approach.</i>
<i>Tasking Europol and the EU Intelligence and Situation Centre (EU INCEN) to regularly report to the SCP.</i>	<i>Adopting a faster procedure to add restricted explosives precursors.</i>	<i>Requiring reporting of suspicious transactions of non-scheduled substances.</i>
<i>Adopting a Commission recommendation setting out detailed recommendations for licensing and registration regimes.</i>	<i>Discontinuing the use of registration regimes.</i>	<i>Introducing a full ban on restricted explosives precursors for members of the general public (including online sales).</i>
<i>Organising dedicated workshops on enforcement for public authorities and develop guidelines.</i>	<i>Reducing the scope of and set an upper concentration limit for licensing.</i>	<i>Requiring the registration of transactions involving professional users.</i>
	<i>Harmonising the circumstances to be taken into account by the NCAs when issuing licenses.</i>	<i>Requiring electronic registrations of transactions involving professional</i>
	<i>Addressing the definitions of "member of the general public" and</i>	

<i>Establishing an SCP sub-group for inspection authorities.</i> <i>Organising dedicated workshops for the different actors in the supply chain.</i> <i>Promoting public-private dialogue between public authorities and online operators.</i>	<i>"professional user".</i> <i>Clarifying the labelling obligation.</i> <i>Require retail to make sales personnel aware of the obligations of the Regulation and perform checks.</i> <i>Clarifying that the Regulation also applies to online sales and establish guidelines.</i> <i>Requiring Member States to set up inspection authorities, training and awareness-raising.</i> <i>Requiring members of the general public and professional users to report significant disappearances and thefts.</i>	<i>users to be forwarded to the competent authorities in real time.</i> <i>Requiring the registration of economic operators at national level.</i> <i>Requiring the labelling of Annex I and Annex II substances and mixtures.</i> <i>Requiring information on explosives precursors to be incorporated in bar codes.</i>
--	--	--

5.2. Measures discarded at an early stage

The following measures were considered at an early stage but subsequently discarded:

- Extending the scope of the Regulation to cover pyrotechnic articles.
- Ban sales of restricted explosives precursors over the internet.
- Exempt inhibited substances from the restrictions.
- Introduce requirements on storage.
- Require economic operators to obtain a licence from the competent authorities before they may possess, use, or make available restricted explosives precursors.
- Introduce restrictions on exports.
- Develop a platform at EU level to exchange information on suspicious transactions, disappearances, and thefts, as well as licences granted and denied.

At an early stage, it was also decided to examine and compare four different, separate policy options instead of combinations of sub-options. A detailed overview of the measures considered and the reasons why they were discarded can found in Annex 7.

6. WHAT ARE THE IMPACTS OF THE POLICY OPTIONS?

The policy options have been assessed against their potential effectiveness, economic, social, environmental and fundamental rights impacts.

6.1. Effectiveness

Effectiveness measures to what extent the different policy options contribute to the specific objectives described in section 4.2.

The baseline scenario would make a **limited contribution to the achievement of the specific objectives of the initiative**. Under this scenario, some of the challenges that have emerged from the evaluation would persist and hinder the effective achievement of the specific objectives of the Regulation.

Should the status quo be maintained, **limited harmonisation among Member States would continue to exist**, as differences in national implementing practices of the Regulation would remain. In the absence of EU intervention, unclear provisions of the Regulation would continue to be differently interpreted by Member States and economic operators would continue to face difficulties in identifying products of concern and legitimate users, and encounter challenges for compliance with the Regulation's requirements. Costs to comply and information costs would therefore continue to be high.

The **level of enforcement could progressively increase** over the years, since concerned national authorities would become more familiar with the punishable offences related to the Regulation and would improve their knowledge of the supply chain and identified the relevant actors to control. However, the framework would remain fragmented as Member States would continue to put different efforts in the enforcement of the Regulation and the complexity of the supply chain would continue to hinder the proper identification of relevant economic operators.

Due to the difficulties encountered in reaching all actors of the explosives precursors supply chain, it is likely that **awareness raising activities of NCAs would continue to cover only part of the relevant actors**. Moreover, the voluntary nature of awareness raising activities of economic operators, together with the poor clarity of some Regulations' provisions and difficulties to identify concerned products would continue to reflect in different implementing practices.

Should the present situation be maintained, the **level of reporting to the NCP could increase** as practices and rules will be better known, but differences would continue to remain from one Member State to the other, and the level of reporting is expected to remain suboptimal, as awareness would likely continue to be uneven.

Differences in the implementation of the EU Regulation would continue to generate security issues, such as limited traceability of transactions, insufficient levels of reporting and different practices and enforcement efforts in different Member States, and obstacles would remain as for the free movement of substances across Member States.

Possible deterioration of the status quo may derive from the absence of certain threat substances in Annex I to the Regulation and from the insufficient level of attention given to internet sales. As for this latter, ambiguities on the application of the Regulation to online market places would remain therefore leaving security concerns and distortions in the market of chemical substances.

Policy option 1 makes an **overall positive contribution towards the achievement of all specific objectives**. However, the impact level across these objectives **varies significantly**, between moderate and small, and could be deemed, as a whole and owing largely to the voluntary nature of the measures proposed, insufficient to address the current security context.

The measures proposed under this option would be effective, to a moderate extent, in achieving two specific objectives: increasing enforcement capacity of the relevant public authorities and improving transmission of information and compliance along the supply chain. As for the former,

workshops targeting the different public authorities with a role in implementing and enforcing the Regulation (notably, law enforcement, first responders, and customs authorities) would facilitate the exchange of different experiences and views, allow the identification of good practices, and increase the exchange of relevant cross-border information, all of which would contribute effectively towards increasing enforcement capacity. An SCP sub-group for inspectors could facilitate the setting up of dedicated inspections systems in Member States that do not already have them, and building a platform for dialogue with online operators would also provide tools to Member States who have not traditionally engaged internet companies and marketplaces.

With regard to the second specific objective, bringing together the different actors and sectors of involved in the supply chain, in dedicated workshops, would increase the level of awareness and understanding and have a positive impact on the transmission of information along the supply chain. This would facilitate key aspects of compliance, such as the identification of products falling under the scope of the Regulation and the identification and reporting of suspicious transactions. Building a public-private dialogue on internet availability would similarly contribute to effectiveness in that very specific sector. In addition, measures aimed at Member States, like the workshops for public authorities and the SCP sub-group for inspectors, would indirectly contribute to improved compliance by the supply chain, as better enforcement practices would certainly bring about a more constructive approach to engaging the supply chain and working in partnership with businesses.

To an important, but lesser extent, the measures would also allow the EU, Member States, and the supply chain, to align restrictions and controls with the evolving threats. The participation of competent authorities, NCPs, relevant stakeholders from the supply chain, as well as Europol and EU INTCEN to regular meetings dedicated to the threat posed by explosives precursors, would ensure all parties with a role in restricting and controlling have the latest information and can adjust their efforts accordingly. Law enforcement, in particular, would be able to focus their actions on the most urgent threats, including emergent threats. Competent authorities would gain a better understanding of the security context and factor this understanding into their decision-making process. The supply chain could adjust their criteria for identifying suspicious transactions and their strategies for knowing customers and verifying the intended use of the substances supplied. Europol and EU INTCEN would collect valuable data to analyse and cross-check at EU level, and the quality and relevance of their reporting back to Member States would improve over time. The Commission would be able to make sure of its delegated powers to add substances into Annex II and change the limit values of substances in Annex I, on the basis of the information received and in a relatively short time, although the addition of substances into Annex I would remain slow. Importantly, this option would help, over time, build trust over the sharing of sensitive but valuable information.

However, this policy option would fall short of ensuring effectiveness in what concerns the three remaining specific objectives.

Regarding the strengthening of restrictions and controls, in the absence of legislative measures, the Commission's Recommendation would contribute to making some of the current licensing and registration regimes more robust. However, Member States who do not take action on the basis of the Recommendation, and those maintaining a ban regime, would not strengthen the level of restrictions and controls in their territories since the legal framework would remain the same. The Commission would have to rely on a future legislative initiative to tighten security around explosives precursors in a significant way and across the entire Union.

With regard to simplifying and clarifying the Regulation, dedicated workshops for the relevant public authorities and supply chain actors would shed some clarity on a limited number of issues, such as who is responsible for labelling and who is or is not a member of the general public. This would be mostly the result of discussing the meaning of certain provisions in the Regulation and agreeing on a common interpretation. On a number of issues, agreeing on a common interpretation might prove elusive, however, and therefore the impact on this specific objective would be at times null. This policy option would therefore not be as effective in simplifying and clarifying the Regulation as if the text of the Regulation itself was amended.

As for facilitating intra-EU trade and preventing distortion of competition, the Recommendation for licensing and registration regimes and an SCP sub-group for inspection authorities would achieve some uniformity in the practical application of the Regulation. This would effectively reduce uncertainty for economic operators who conduct their business across EU borders, as they would face more similar approaches to the rules in the different regimes. As a result, their operations would gain in agility and competitiveness. The gain, however, would risk being minimal as the legal framework, and therefore the actual rules, would not change. The incentive for Member States to change their practices and adopt the Recommendation and the good practices identified in the SCP subgroup would be limited and adoption itself would likely be too slow to be effective in a reasonable timeframe.

Despite the positive contribution of policy option 1 to effectiveness, across all specific objectives, the level of impact would be limited. The main reason behind this is the non-legislative nature of the measures. Because participating to the proposed sub-groups and workshops, and putting the recommendations, guidance, and codes of conduct into practice, would be ultimately voluntary, full coverage across the Union and along the supply chain is unlikely to be achieved.

As a result, this policy option would most likely lead to Member States and different actors in the supply chain advancing at different speeds. In the context of the threat posed by explosives precursors, this would create opportunities for terrorists and criminals to exploit the weakest links and would therefore be detrimental to maximising the effectiveness potential of an initiative by the Commission.

Policy option 2 would contribute equally to the security-oriented and internal market-related specific objectives.

The list with restricted substances is **extended in line with the evolving threat of HME**, which shows that sulphuric acid has repeatedly been used to manufacture the most popular HMEs (TATP and HMTD) and with reportedly relative ease. The substance is already dangerous as such due to its corrosive nature and has been used to inflict injuries upon people in acid attacks.

The concentration up to which nitromethane can be made available to the general public will be lowered, in line with a recommendation of a EU funded project that considers this would significantly reduce the threat and potential misuse of nitromethane.⁵³

The transfer of the restriction related to Ammonium Nitrate from REACH will make the legal framework more coherent and hence the more likely to be complied with and enforced. By delegating the power to add substances for restriction to the European Commission, the Regulation

⁵³ EXPEDIA (EXplosives PrEcursor Defeat by Inhibitor Additives), see www.expedia-fp7.eu/.

will be more agile and adaptable to close security loopholes in a rapidly evolving threat environment.

The possibilities for the general public to access **precursors that are already restricted, but remain popular for the production of HME, will be further reduced**. Explosives precursors will be completely banned above a certain concentration for which the general public has no need⁵⁴. For those explosives precursors for which the public has a need, they will only be able to access those explosives precursors through a licence, which would allow for background checks of the individual before a purchase is made. It will therefore no longer be possible to access highly concentrated hydrogen peroxide through a mere registration of the transaction.

By contrast, **experience demonstrates that licensing regimes can be very effective** in restricting access of precursors above the concentration limit to the general public, while allowing for legitimate use by members of the general public. The cost of the licence and the burden of the procedure to apply the inconvenience of applying for a licence, seems to deter individuals from purchasing the above concentration threshold chemicals. The number of licence applications has decreased significantly every year since the Regulation is into force⁵⁵. Although licences can be provided for a period of up to three years, it also indicates that restrictions, such as a licensing regimes, have a limiting effect on the demand for precursors above the concentration limit. In most cases, it may be assumed that consumers would use products with lower concentrations, as they may be discouraged from applying for a license. Producers have anticipated and reacted to the decrease in demand by seeking to manufacture and market products containing alternative substances or containing lower concentration of restricted explosives precursors. The result is that precursors are less available to the general public and consequently, also to terrorists and other criminals.

The establishment of minimum common criteria for granting or refusing licences would lead to **more uniform security standards** and will **further restrict access to explosives precursors** in those Member States which applied less stringent rules and strengthening controls, for example by making background checks compulsory. The positive impact on security will be strengthened by the addition of conditions on the acquisition of precursors, for example asking end-users to respect storage conditions and reporting of thefts and disappearances. The existence of common licensing criteria will create a more homogeneous playing field, and facilitate the work of companies active in different Member States. This measure will aid mutual recognition of licences, which would smooth the functioning of the internal market, favouring the movement of precursors that may be acquired for legal purposes in the same way in those countries applying licensing.

In general, limiting **exceptions to the ban for the general public will simplify the legal framework and make it clearer**. Rules across the EU will be more homogeneous, facilitating intra-EU trade, competition and close forum-shopping.

The clarification that online operators fall under the Regulation will also contribute to ensuring a level playing field among companies operating on- and offline, and closing a significant security gap which criminals and terrorist are currently increasingly exploiting.

⁵⁴ See Annex 4: Market Analysis; SEC(2010) 1040 final of 20.9.2010.

⁵⁵ See Annex 3: Evaluation .

A majority of respondents to the OPC consider the **lack of restrictions and controls applied to legal persons as posing a security concern**. By being included in the definition of "members of the general public", legal persons would only be allowed to access precursors if they have a need for this following from their profession. This need would also be reflected in the newly defined concept of "professional user", **clarifying who can and who cannot have access to restricted explosive precursors**. These clarifications in the definitions will have a positive impact on uniformity in the application of the Regulation and reduce difficulties for companies. It will reduce the current subjectivity and uncertainties that leave room to unlawful transactions.

The whole supply chain will be better informed through targeted awareness raising actions. By clarifying the labelling obligation, downstream actors of the supply chain will be supplied with the information needed to apply consistently the requirements of the Regulation. It will diminish current uncertainties of economic operators linked to the lack of clarity in the allocation of responsibilities along the supply chain and therefore ensuring similar types of costs for similar economic operators between MS. By clarifying that the label applies in all Member States, irrespective of what regime is applied, cross-border trade is facilitated and distortion of competition avoided.

The staff involved in sale to final users will be trained on which product can only be made available after a check, leading to **better compliance with the Regulation**. This staff is responsible in the first instance to identify suspicious transactions. In doing so, this measure should improve the compliance of retailers to the Regulation's requirement and eventually ensure a wider a consistent assessment of suspicious transactions. This measure will also improve the functioning of the internal market by ensuring a level playing field where all retailers operating in the explosives precursors market will bear the same costs for training and ultimately contribute to ensuring equal conditions to sale transactions of professional users and members of the general public in all MS.

A dedicated inspection authority in each Member State, and training for public authorities that may deal with explosives precursors, will **increase the enforcement capacity across the EU**. This will improve the awareness of LEAs, first responders and customs authorities on the requirements of the Regulation and on its "weakest links" (e.g. controls on internet sales, controls on imports from third countries) and eventually improve the quality of controls performed on products entering and circulating in the internal market. Similar controls applied in all Member States will likely create a more secure environment for businesses and limit potential market distortions linked to the existence of different enforcement systems at national level. By implementing training for law enforcement, first responders and customs authorities, this measure will also contribute to create a more secure environment for businesses and cross-border transactions.

Policy option 3 would **contribute more to the security –oriented specific objectives than those related to the internal market**. Policy option 3's effectiveness is high for the objective to further restrict access and strengthen controls, in line with the evolving threat. The Regulation would anticipate to future developments by restricting additional substances that could be used to manufacture HMEs and making all substances that can be used to make HMEs reportable. Moreover, restricted explosives precursors would no longer be made available to the general public, without exceptions.

Enforcement by the competent authorities of the Regulation would increase because they would be able to monitor and analyse all transactions with professional users. The register of economic

operators would also facilitate the identification of supply chain actors working with regulated substances, which could help the competent authorities to better target information campaigns.

The full ban on restricted explosives precursors for members of the general public would make rules across the EU more similar, facilitating intra-EU trade and competition. More streamlined restrictions would simplify the Regulation, but the addition of numerous obligations would make it overall slightly more complicated and less clear. The policy option therefore scores much lower on the simplification of the framework.

The transfer of information, through labels and barcodes, of all products that contain explosives precursors would facilitate retail to identify the relevant products and comply with the restrictions of access and reporting of suspicious transactions. The awareness raising activities that would accompany the revision of the Regulation and the introduction of new obligations could also have an indirect effect on the awareness along the supply chain. By informing the different stakeholders about their obligations and drawing their attention to the revised framework for producing, selling and using explosives precursors, awareness along the supply chain could be increased.

6.2. Economic impacts

To evaluate the economic impacts of the different policy options, the effects of each option on the EU economy and on different economic actors (e.g. producers, retailers, consumers) was assessed, as well as their costs and potential for cost savings. Particular attention was also paid to the impact of the different options on SMEs. The impacts below are estimates based on an external study⁵⁶. This study has estimated the impacts of each measure of the three options, by basing itself on existing studies and on interviews with affected stakeholders. These stakeholders were asked to assess for each measure the expected impact on all aspects relevant for an impact assessment such as the compliance costs, administrative burdens and economic losses for economic operators. Accordingly, the study has scored the measures as having a slight (<10%), moderate (10-30%) or significant (>30%) impact on all those aspects, in either a negative or positive way. With all the scores of the individual measures, the study has calculated the total impacts for each option. Additional information can be found in Annex 4, which provides a market analysis and Annex 6 which provides more detailed assessments of the costs and benefits for option 2.

It is important to note that the **chemical market in the EU is large and diversified**, with multiple end-users using the precursors concerned. Most is consumed by industry for formulated products, but some of the precursors have substantial markets in their own right (e.g. nitrate fertilizers and acids). The market for the general public was estimated at 1.5% of the annual turnover in 2010,⁵⁷ before the adoption and entry into force of the restrictions. The restrictions had a reducing effect on offer and demand of restricted explosives precursors to the general public since then. Public authorities have reported that the availability of such precursors in stores that sell to the general public has reduced significantly and producers and manufactures report to have adapted to restrictions by lowering concentrations and offering alternative substances. It seems therefore safe to assume that the **affected part of the market is therefore currently smaller than 1.5%** (see Table 16 in Annex 4).

⁵⁶ Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative, Ernst & Young, 2018.

⁵⁷ SEC(2010) 1040 final of 20.9.2010.

Under the **baseline option**, the **fragmentation** of the system of restrictions and controls across the EU, as well as differences in the enforcement impacts in the Member States, would continue to generate **uncertainties and an uneven level playing field**, as economic operators would continue facing different rules in different countries. The ambiguity on the application of the Regulation to online stores and market places would persist and continue to create market distortions with physical shops, the latter bearing more costs than online shops for which controls are more difficult to perform. Moreover, limited harmonisation of rules across Member States would continue posing a strain on the free movement of explosives precursor substances. The insufficient transmission of information along the supply chain and the lack of clarity of certain provisions would leave burden on retailers that would continue to face costs to identify the products that fall under the Regulation.

The current level of availability and awareness about the existence of alternative substances could have a negative impact on the perceived product choice and availability among the general public.

The lack of clarity of some provisions would continue to create unnecessary costs for industry, notably in relation to training and identification of concerned products. These costs particularly affect SMEs that are the predominant type of enterprise among retailers.

Furthermore, the baseline would **not raise costs for industry, public authorities and consumers, nor would it lead to cost-savings or reducing of the burden**. Administrative costs for industry for reporting activities will remain in the margins of day of work for a full time equivalent (FTE) per month for reporting suspicious transactions. The most burdensome activity for public authorities will continue to be the registration and processing of licensing applications, amounting to up to a working day of FTE

Policy option 1, in comparison to the baseline, could benefit to competition over time and would be neutral on consumers and SMEs. It would have a **limited cost saving and burden reduction potential**.

The impact on competition would be overall positive, mainly due to economic operators being able to expect, over time, more uniform practices across the Union's internal market and therefore reducing the costs of obtaining information about, and adapting their business practices to, the specificities of each regime. Concretely, the promotion of a more harmonised approach to licensing and registration, a clearer application of the restrictions and controls, and better enforcement, would all allow economic operators who conduct business across borders to gradually face similar regimes and interpretations of the rules across an increasing number of EU Member States. This would reduce distortions of competition, as economic operators would not be as dependent on the particularities of the regimes in which they operate and could save costs by conducting similar business practices across the Union. The workshops targeting the supply chain, and resulting increase in the level of awareness by economic operators, would further help reduce barriers on the basis of knowledge. Furthermore, increased exchanges between the public authorities of different Member States would allow the identification of administrative practices that incur lower burdens while obtaining the same level of effectiveness, and therefore have the potential to reduce administrative burdens in some Member States.

The impact on consumers, both professional users and members of the general public, would be null in the short and medium term. In the longer term, as emerging threat substances are identified, the impact is uncertain but could depend much on the substances used and activities carried out by each consumer.

Consumers of emerging threat substances could be eventually facing restrictions that would compromise their legitimate professional or non-professional activities. To compensate this negative impact, Member States and the EU institutions would have to ensure that consumers, including members of the general public who carry out legitimate non-professional activities, are duly and timely consulted before adding substances into Annexes I and II.

Conversely, consumers with legitimate non-professional activities would benefit from more uniformity in the rules applied in licensing and registration regimes, and, in the former, from the issuing of licences that are mutually recognised across the Union. Since they are also subject to penalties for non-compliance, especially ‘possession’ and ‘use,’ consumers that are members of the general public would equally benefit from a clearer application of the restrictions and controls and better enforcement, for reasons similar to those of economic operators (reduce costs of finding out about the specificities of each regime, adapting to the different rules, and avoiding fines for non-compliance).

The impact on SMEs would be the same as for other types of economic operators although SMEs have less resources available, both in terms of financial and human resources, to dedicate to the participation to workshops and following the activities of Member States and the EU in this area. Many SMEs are not part of Member State- or European-level associations that could potentially represent them in the proposed fora or kept them informed about relevant developments and how these may affect them. As a result, they are generally less connected to the policy-making process in what concerns security policy and are therefore unlikely to influence it or, in the case of non-legislative efforts, benefit from them.

As regards the impact of this policy option on **enforcement costs**, these could initially increase for public authorities, by less than 10% of what they are in the baseline scenario, in view of the human resources needed to participate in the various proposed meetings and to put the recommendations concerning licencing and registration regimes in place. However, the expected increase in enforcement capacity would, after this initial period, compensate these costs.

The administrative burden for competent authorities would lighten, to some extent, because through this policy option the Commission would provide increased support for competent authorities in their efforts to improve the practical application of the restrictions and controls by both the relevant public authorities and economic operators.

Similarly, the Commission would provide increased support for the supply chain, relieving some of the administrative burden involved in raising awareness.

In the mid-term, this policy option would have a positive effect on compliance costs by economic operators, as a result of increased awareness along the supply chain and increased uniformity in the practices adopted by Member States.

Economic operators would not experience any economic losses since this policy option does not entail changes to the Annexes to the Regulation.

Policy option 2's economic impacts **would be noticeable**. Both large and small companies would be affected, as well as consumers. The measures proposed, and in particular the discontinuing of the registration regimes, are expected to have **positive impacts on competition**. Option 2 would enhance an EU **level playing field** by harmonising Member States' regimes and imposing the same

obligations on all manufacturers regarding labelling and the transmission of information. The streamlining of restrictions and controls across the EU would facilitate the operations of companies operating in several Member States. Option 2 would also improve **compliance by online companies** with the Regulation, avoiding distortion of competition. Better enforcement would put an end to the illegitimate advantage that those companies have by not complying with the Regulation.

The impact on consumers is expected to be limited, and confined to perceptions of a reduced product choice and availability. There will be also a negative impact on legal persons, as legal persons with no professional interest would not be able anymore to acquire restricted products (in MS where the ban is applied) or acquire restricted products only with a license (in MS where the licensing regime is applied). Furthermore, defining a "professional user" may negatively affect users that operate in a Member State where the concept is understood more broadly but it will also increase the potential market for users, including companies, which operate in a Member State where the concept is understood more restricted.

The potential loss in sales to the general public by making **sulphuric acid** a restricted substance is also mitigated by the fact that household use is estimated only at 0.5% of the total market. The use of **nitromethane** among the general public is even less widespread. Annex 6 provides a detailed explanation of the potential loss in sales to the general public for the two substances.

Sales would also decline by removing the possibility to make precursors available through registration of the transaction. In comparison to a registration regime, the cost of the licence, including the procedure involved to apply for a licence, may deter individuals from purchasing the above concentration threshold chemicals. Some retailers currently under a licencing regime have completely stopped selling some substances, even though it was still allowed for them.

The economic impact of setting upper limits to licensing is very small. After all, these correspond to the limits currently set for registration, which is based on the estimation that there is no use for product above that limit by the general public. The evaluation did not show any economic loss as a result of those restrictions.

Companies that specialise in the supply of (highly concentrated) restricted precursors (such as fuel based on nitromethane) would be more affected than those that offer a much broader range of products, including alternatives to the restricted explosives precursors. The impact will therefore also be relatively higher for SMEs with smaller sales volumes, but small for bigger suppliers.

However, whereas the restrictions in option 2 can decrease the consumption and demand of restricted products, they can also increase the consumption and demand for lower concentrations which have the same effect, or alternative products which will continue to be developed. This can reduce the business for companies that are producing or selling restricted goods but it can create new opportunities for companies producing or selling alternative goods and lower concentrations and provides an incentive to innovative companies. All things considered, there would therefore not be a significant impact on the turnover of the chemical sector as a whole.

As to the **administrative burden** for companies, manufacturers and suppliers will need to adjust the production processes (dilution), packaging and labelling of products intended for non-professional use.

Retail will bear extra regulatory costs and investments in human resources due to the required training and the performance of checks (see Annex 6). It will however positively impact those retailers that are already applying the Regulation in a responsible manner, by ensuring that all retailers operating in the explosives precursors market will bear the same costs for training and ultimately contribute to ensuring equal conditions to sale transactions of professional users and members of the general public in all Member States. The streamlining of restrictions and controls across the EU would also facilitate the operations of companies operating in several Member States. Finally, clearer definitions make it easier for retailers to understand who can and who cannot have access to restricted explosive precursors.

The **burdens on public authorities** would significantly increase through the requirement to have in place inspections authorities, raise awareness and to provide training for law enforcement and other competent authorities. This is mitigated by the circumstance that many Member States have already taken steps to facilitate the application of the Regulation. Member States that would set up a licensing regime, now that the registration regime is discontinued, would be faced with setting up a new procedure and authority. However, from the feedback provided by Member States already applying a licensing regime, it is clear that such a regime does not generate a large number of applications, and is not perceived as a burden to the authorities.

Policy option 3's economic impacts **would be significant**. Large and small companies would be affected, as well as consumers and the costs and administrative burden of competent authorities and economic operators would significantly increase.

The measures proposed, and in particular the introduction of a full ban on restricted explosives precursors for members of the general public, would have **mixed effects on competition**. On the one hand, policy option 3 would create a **more level playing field** by harmonising Member States' regimes and imposing the same obligations on all manufacturers regarding labelling and the transmission of information, which would have a strong positive impact on competition. On the other hand, extending the scope of the Regulation and adding a substantial number of theoretically dangerous explosives precursors to the list of regulated substances, would have a **significant negative impact on the competitiveness of affected producers and suppliers** in terms of compliance costs and loss of sales.

Producers and suppliers would be affected by the restrictions in terms of adapting to the new rules. This would be **particularly problematic for SMEs**, which might not have the capacity to adapt their products, purchase (more expensive) alternatives or target a different market.

The restrictions introduced by policy option 3 would **stimulate research and development**, as manufacturers would have to modify the composition of certain consumer goods and look for alternatives to replace restricted substances. This would have a positive impact on research and innovation and facilitate the introduction of new products.

The overall **impact on consumers would be negative**. Whilst better labelling practices would provide more clarity, the introduction of a full ban and the substantial revision of the Annexes would imply that **many substances and mixtures would no longer be available to members of the general public**. The complete ban would primarily affect consumers from Member States that currently have licensing or registration regimes. As noted before, only a small share of all consumers of explosives precursors is members of the general public. Yet many of them would no

longer be able to carry out particular hobbies or activities due to the proposed measures⁵⁸. Following the revision of Annex I, some manufacturers would have to adapt the composition of their consumer products. This could result in a (temporary) **decrease in the variety of products available and an increase in price**, which could also affect professional users.

Lastly, if consumers would need to use greater quantities of certain products to obtain the same effect (due to the fact that the concentration of a substance had been lowered) they would end up spending more to achieve the same results.

Policy option 3 would also **significantly increase the costs and administrative burden of competent authorities and economic operators**. According to the economic operators replies on the potential ranges of these impacts, the administrative burden and compliance costs of economic operators would increase by more than 30%, due to the time and costs associated with: additional training of sales staff, identification of new restricted products, registration of transactions involving professional users, additional reporting and registration in a national register for economic operators. This increase would be partially mitigated by the harmonising effects of the introduction of a full ban, which would slightly reduce the administrative burden of economic operators (particularly for those doing business in different Member States). However, the overall increase could be expected to be between 10 and 30%.

The enforcement costs and administrative burden of the competent authorities are also expected to rise. The additional monitoring and inspection activities, the awarding of penalties, and adjudication would increase enforcement costs between 10-30%. The increase in the administrative burden, linked to the monitoring of transactions and the managing of the register of economic operators, is expected to be below 10%, although the exact impacts would differ per country.

The increase in costs and administrative burden resulting from the measures proposed under policy option 3 would seem **disproportionate**.

6.3. Social impacts

To assess the social impacts of the different policy options, the potential effects of each option on European society was examined. On the one hand this would include the impacts on crime, terrorism and security, as a whole, and on the other the impacts labour market and public health.

Under the **baseline scenario**, the overall level of security in the EU would not improve as **existing security gaps would persist**. Explosives precursors would continue to be accessed by members of the general public differently according to the specific regime adopted, and divergent implementing practices would give rise to different levels of security. The enforcement capacity of relevant authorities would probably increase with the improvement of their knowledge of the Regulation and the supply chain, but enforcement levels are expected to remain uneven across Member States and challenges in dealing with cross-border cases would persist, thus limiting the overall level of security ensured in the EU.

Moreover the fragmented application of restriction and controls to online sale would leave security gaps that would affect the overall effectiveness of the Regulation in limiting the access to explosives precursors to members of the general public. The level of awareness along the supply

⁵⁸ See Annex 5: Market analysis.

chain would improve over time but it is likely to remain uneven for some actors, especially SMEs and online retailers. The lack of clarity on certain provisions of the Regulation would continue to allow different interpretations and different implementing practices among Member States. All these factors would negatively affect public security, as terrorists and other criminals would continue to exploit differences in the application and enforcement of the Regulation across Member States to find ways to illegally acquire explosives precursors.

Possible deterioration of the status quo may derive from the absence of certain threat substances in Annex I to the Regulation and from the insufficient level of attention given to internet sales.

Without practical measures for increasing the exchange of information on potential threats, and for enhancing the enforcement capacity of public authorities and encouraging compliance of economic operator, **the impact on the labour market and public health** would be null.

Policy option 1 would contribute somewhat to increasing **security** in the EU Member States.

Discussing evolving threats in an SCP subgroup, regularly and in classified environments when necessary, and with input from Europol and EU INTCEN, would increase the exchange of information and improve the quality of this information over time. Public authorities and the supply chain would obtain comprehensive and up-to-date information allowing them, to some extent, to adapt their implementation strategies in a timely and targeted way, tackle new and evolving threats as they arise, and strengthen their preventive capabilities. With increased and up-to-date information about threats, the supply chain would be able to exercise better control over their transactions, especially cross-border transactions, and benefit from increased certainty in their operations across the internal market.

Detailed guidance to strengthen licensing and registration regimes, in the form of a Commission Recommendation, would lead to some Member States adopting the proposed measures and therefore applying similar and higher standards in their territories. This would, to some extent, increase the level of security in those Member States and facilitate compliance for economic operators who operate across borders and at the present time have to spend time adjusting to the different specificities of each regime.

In a similar way, an SCP subgroup of inspection authorities and dedicated workshops for public authorities on enforcement and for the different sectors and actors in the supply chain, would all raise the level of awareness of relevant stakeholders, align enforcement and compliance efforts, allow the identification of good practices, and encourage the adoption of similar and more effective ones.

However, although the level of security should increase as a result, the impact of these measures would remain limited. To increase the magnitude of the impact, a special effort should be made to reach out and engage those stakeholders who are least aware and engaged at the present day.

The above is equally true for the online market, where promoting a public-private dialogue would contribute to reducing the security threat online. However, the level of impact would be highly dependent on successfully engaging a wider number and range of online operators.

Practical measures to increase the exchange of information about threat developments and to improve the enforcement capacity of public authorities and compliance by economic operators would also have a **positive but minimal impact on the labour market and public health**.

The labour market would benefit from a more regular and constructive dialogue with public authorities and EU institutions. Economic operators would be able to adjust their marketing of substances and mixtures that may be identified as emerging threats before they are regulated, and would also be able to participate, from an early point in time, in the regulatory decision-making process. This could avoid negative impacts of future regulation on the labour market, as economic operators would be able to adapt their resources, including human resources, to developments early on and at lower costs, thus in an efficient way. In addition, increased levels of awareness along the supply chain would translate into economic operators avoiding fines for non-compliance, similarly lowering costs, which could negatively impact the labour market. Both of these factors (being able to foresee regulatory changes and avoiding non-compliance) are of **particular importance to SMEs**, whose hiring and firing decisions are much more affected by sudden regulatory changes, including on a single substance, or an eventual economic fine.

This impact level of this option on the labour market would nevertheless be minimal to null. On the one hand, because many key actors in the supply chain, especially SMEs, would likely not participate, themselves or through associations representing them, in the above-mentioned exchanges. On the other hand, the benefits of this option would be more about avoiding negative impacts than generating positive ones, such as promoting investment into the labour market and creating jobs.

A similar analysis can be made for the impacts on public health, where increased exchanges and level of awareness would bring some small but positive benefits. When an attack involving explosives happens, harmful chemical particles are realised into the air. The victims of the attack, as well as first responders that arrive at the scene are exposed to toxic and corrosive substances, which can impact their health both in an immediate way and in the longer term. Discussing trends in the use of chemical substances to make HMEs can alert public health authorities and first responders to the type and magnitude of hazardous conditions present both immediately after an attack and in the longer-term, and allow them to prepare and intervene accordingly to minimise the impact on public health. It is also not negligible to consider that intensified efforts by all stakeholders involved in the prevention of terrorist attacks would lead to a public perception of increased security and, with that, a perception of strengthened collective resilience which can be valuable, in the aftermath of an attack, to mitigate the negative psychological effects on the population.

The impact level of this policy option on public health would remain small though as participation in the exchanges and adoption of guidelines and good practices would be facultative for public authorities, and the public at large would most likely remain unaware about these efforts. It is therefore unlikely that all public health authorities across the Union would substantially modify their preparedness and contingency plans on the basis of the exchanges and that this policy option would improve the public perception of security in a consequential way.

Under **policy option 2** more restrictive and streamlined measures relating to the making available of explosives precursors will make it more difficult for illegitimate users to acquire explosives precursors. This is expected to have a significant impact on enhancing security across the EU. The general public, which may include legal persons, will not be able to access explosives precursors,

unless Member States have provided for the possibility of access through a licence, issued in accordance with common criteria.

The Regulation would be aligned with the evolving threat of HME and will be kept up to date through delegated acts. Through a better supply of information, awareness raising and training, the supply chain will be better equipped to apply restrictions and controls and detect illegitimate use. The same effects can be envisaged by the setting up of inspection authorities and training of law enforcement and custom authorities. All of this will limit the risk that terrorists and other criminals have access to explosive's precursors and make explosives.

Policy option 2 would also **decrease the consumption and demand of restricted products**. As a consequence of reduced sales and lower production rates, manufacturers and suppliers may reduce their production staff. On the other hand, this could be neutralised by an increase in the consumption and demand for lower concentrations and alternative products, as well as the need for new or modified products, which could have a positive impact on employment in the research and development sector.

Retail will bear additional regulatory costs, administrative cost and investments in human resources due to the required training and the performance of checks. This policy measure can increase the workload and costs of the retails on a short-term, but would have a **neutral impact on the labour market in the long term**.

Consumers would be affected in the exercise of household chores and hobbies, for which they use (without the assistance of a professional) explosives precursors. For the social impact on consumers, it is essential to take into account whether they can still carry out their legitimate activity with less concentrated or alternative substances. The assessment depends on the explosives precursor concerned⁵⁹ and is subject to scientific developments (see 2.3).

Generally, it is assessed that there is **no real need for non-professional consumers regarding concentrated sulphuric acid** (with a few exceptions like for etching circuit boards) as diluted acids may also be used, as well as other alternatives (e.g. enzyme based drain cleaners). For pH adjustment of swimming pools and fish tanks, other acids are reported to be more efficient and less dangerous for an equal or smaller price.

The same applies to the use of concentrated nitromethane, for which there is almost no need by members of the general public. For those who use it as an ingredient for model car and aircraft fuel, lower concentrations are sufficient.

Hydrogen peroxide, nitromethane and nitric acid above the concentration limits are not widely used by members of the general public (see Table 16 in Annex 4) and certain alternatives are available (e.g. chlorine for cleaning and ethanol for disinfecting). Under option 2, the general public could have access to these substances after obtaining a licence. Member States that already apply a licensing regime for these three substances generally only receive a few applications for these substances per year, with only one Member State reporting double digits. The addition of **ammonium nitrate** to Annex I would have no implications, because it already is restricted under REACH in the same manner as intended under option 2.

⁵⁹ SEC(2010) 1040 final of 20.9.2010, p. 56 provides estimates for each explosives precursor on "price elasticity", related to the availability of alternatives.

The impact on **public health** is assessed as high, due to the security benefits described in 6.2. Moreover, some precursors also have intrinsic risks to public health, with sulphuric acid being used in acid attacks. Nitromethane has been classified as “possibly carcinogenic to humans” (see Annex 6).

Policy option 3 would **contribute significantly to ensuring a high level of security in the EU**.

This option would introduce further controls along the supply chain. The additional obligations resulting from these controls and the actions that the different stakeholder groups would be required to take are expected to have an impact on **employment**.

The introduction of a full ban on restricted substances for members of the general public would have a **negative impact on employment, primarily in Member States with a licensing or registration regime**. Manufacturers and suppliers who are currently producing or selling products containing restricted substances above the permitted limit values, would see a reduction in their sales due to the fact that they would no longer be allowed to make these products available to members of the general public.

Expanding the Annexes of the Regulation to substances that could potentially be used to manufacture HMEs, would have a serious impact on the manufacturing and sales of the concerned chemical substances and consumer products containing them. Newly restricted substances and products containing concentrations above certain limit values could no longer be sold to members of the general public. As a result, manufacturers and retailers targeting the consumer market would have to find ways to lower concentrations or replace newly restricted substances, which could be a time-consuming process. Meanwhile, the sales and production of the concerned goods would decrease. In response to reduced sales and lower production rates, manufacturers and suppliers may **reduce their sales and production staff**. On the other hand, the need for new or modified products could have a **positive impact on employment in the research and development sector**.

Requiring the labelling of Annex II substances and mixtures and the introduction of a new obligation on information to be included in barcodes would increase the costs and workload of manufacturers, but it would facilitate the identification of regulated substances for retailers. Consequently, **the impact of these measures on overall employment is difficult to quantify but could be neutral**.

The other measures proposed under policy option 3 would mainly affect the capacity need of the relevant national authorities. The introduction of the obligation to also report transactions involving non-scheduled substances, may lead to an increasing number of reported suspicious transactions to NCPs. The management and administration of a national register of economic operators working with regulated substances and the real-time monitoring of transactions involving professional users would also **require additional personnel**, which would have a **positive impact on employment**.

By limiting members of the general public’s access to (high concentrations of) potentially dangerous chemical substances this option would have a **positive impact on public health**. The proposed measures could not only help to prevent terrorist attacks with HMEs that might have disastrous impacts on the health of victims, it would also limit the general public’s exposure to substances that might be poisonous, corrosive, carcinogenic or otherwise harmful to human health.

6.4. Environmental impacts

Based on the available information and data an estimate of the environmental impact of each policy option was made. As the actual effects on the environment depend on a number of factors including substances affected, available alternatives, changes in volumes used and consumer behaviour, it is difficult to estimate the exact environmental impacts. Moreover, the impacts on the environment have to be put into perspective of the relatively small part of market on explosives precursors that is addressed by this Regulation.

The Baseline scenario would bring no changes to the existing situation, which has an **overall insignificant impact on the environment**.

Policy option 1 would have a **neutral and insignificant impact on the environment**.

A slight negative impact could arise from increased travel by stakeholders to participate in meetings and other activities that require physical presence.

In addition, there is a risk that while promoting the use of alternative substances members of the general public turn to lower concentrations, likely to require the use of larger volumes of chemicals, and/or to other substances with a different (possibly, although not necessarily, worse) environmental impact. This level of uncertainty would be justified, however, as the products used by members of the general are already assessed against environmental considerations through other legislation and policies, and the quantities used represent in any case a very small share of the total.

Policy option 2 would further restricting the access to high concentrations of explosives precursors would have the effect that consumers would have to **use greater quantities of the same product in lower concentration** in order to obtain the desired effect. This would entail increased packaging and transport, as well as increased releases to the environment of chemical compounds/additives present in the product.

Restrictions would also have the result that **alternative substances are used, that could have more detrimental effects on the environment**, such as the use of chlorines as an alternative to hydrogen peroxide.

Policy option 3's impact on the environment is **difficult to predict** since it would depend on a number of factors, including: the substances affected, the reduction in the amount of chemicals used and the availability of suitable alternatives. The effects would however be similar to those described under policy option 2. The exact impact would **depend on the substances that would be included and the available alternatives**.

6.5. Impact on fundamental rights

To determine the impact of the different policy options on fundamental rights, the effects of each option on the following rights were assessed: right to the protection of personal data, right to non-discrimination, freedom to conduct a business. As the impacts of the options on crime, terrorism and security were already assessed under 'Coherence' and 'Effectiveness' (sections 6.1.1. and 6.1.2.), this section will not detail the extent to which the measures further the right to life and liberty.

The baseline scenario is not expected to bring any noticeable impact on fundamental rights.

In the absence of additional practical measures for improving compliance of along the supply chain and enforcement of public authorities, no particular improvement is expected with regard to the application of the Regulation's provisions on the protection of personal data, notably during reporting of suspicious transactions.

No impact on the freedom to conduct a business is expected. However, certain obstacles to competition of economic operators involved in the trade of explosives precursors would remain in the absence of new EU action to improve the free movement of substances in the EU internal market.

Policy option 1 would have a positive and important impact on fundamental rights.

The proposed measures would have a **positive impact on right to the protection of personal data**. Improved compliance along the supply chain and enforcement by public authorities would translate into a better application of Article 10 of the Regulation which lays out that the processing of personal data required in licensing and registration regimes, as well as during the reporting of suspicious transactions, comply with the Data Protection Directive⁶⁰. During meetings and workshops, EU institutions, Member States, and the supply chain should pay attention to the type of information disclosed and foresee appropriate arrangements if personal data is to be shared.

The right to non-discrimination would also be reinforced with a better application of the current framework. Engaging the supply chain and relevant authorities to discuss the reporting of suspicious transactions and, in particular, the indicators and criteria used to assess the risk posed by each transaction, would help to reduce, or avoid, discriminatory practices stemming from prejudices based on physical features or the background of customers.

No impact on the freedom to conduct a business is expected as the legal framework remains unchanged, although any removal of distortions to competition, even if small, would indirectly create a more conducive environment to exercise this freedom.

Policy option 2, compared to the baseline scenario, would not have a much bigger impact on the protection of personal data. The proposed measures will reduce the amount of personal data collected and processed, but could also lead to the same amount or slightly more data being collected and processed. Discontinuing the registration regime will bring about that companies no longer have to register and retain personal data of customers from the general public. If such countries were to adopt a licensing regime, their personal data would be processed and stored by competent public authorities, as is currently already the case. The requirement to conduct identity and criminal records checks for the general public that seeks to acquire explosives precursors with a licence concerns personal data. The requirement for the general public and professional users to report thefts and disappearances can lead to personal data being processed and stored by the competent public authorities.

The further restrictions on the type and concentration of substances have a **negative impact on the freedom to conduct a business**. As the proposed measures prohibit sales of certain restricted substances to the general public, the freedom to conduct a business is limited.

⁶⁰ Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. OJ L 281, 31–50.

Policy option 3 would cause a shift from a three-tiered system to a full ban, which would end the collection of personal data for the purpose of requesting a licence to access restricted explosives precursors. At the same time, several of the proposed measures (i.e. registration of transactions involving professional users, forwarding registrations of transactions to the competent authorities in real time, reporting of suspicious transactions involving non-scheduled substances and requiring economic operators to register) would involve the collection and processing of personal data. Given that the market for professional users is much bigger than that of the general public, **much more personal data would be collected**. It can also be expected that the competent authorities, in line with the general rules on data protection, would process that data. The data would only be processed for the purpose of detecting and preventing the illicit manufacture of HMEs and could only be accessed by specifically designated authorities. Registrations of economic operators would only be accessed by inspection authorities, and the retention of the data collected would be limited. Regardless of any mitigation, the measures proposed would amount to a significant increase in personal data. The collection of this data is already very broad and does not appear to provide significant efficiency gains to justify the infringement of the right to protection of personal data. Any measures to put in place at a later stage in the stage of processing and storage would have a very limited effect. The impact on the protection of personal data is therefore rather significant.

The introduction of a full ban on restricted explosives precursors for members of the general public and the additional obligations imposed on economic operators have a **negative impact on the freedom to conduct a business**. As the proposed measures add requirements that would increase the costs for the economic operators concerned and prohibit sales of restricted substances to the general public, the freedom to conduct a business is limited. The **policy option would not impact the right to non-discrimination**.

7. HOW DO THE OPTIONS COMPARE?

To compare the different policy options, each option was scored against the assessment criteria of effectiveness, efficiency, fundamental rights and coherence. Each of these criteria has an equal weight, but effectiveness is measured against 6 sub-criteria, efficiency against 5, fundamental rights impact against 3 and coherence against one. The total score at the bottom of each table is sum of the different sub-criteria scores. Scores range from -3 (very negative) to +3 (very positive) and options are ranked and compared based on their scores.

A table showing all criteria and scores is available in Annex 11. Annex 12 explains the different weightings and provides a sensitivity analysis.

Comparison of 'Effectiveness'

Policy option 1 has low positive to medium positive scores (i.e. +0.5-+1.5) for all six specific objectives, but has the lowest overall score of the three policy options (+5.5) **Policy option 2 has the highest overall score (+11)** as the proposed measures would contribute considerably to achieving the 5 out of 6 specific objectives and moderately to one (i.e. facilitate EU-trade and prevent distortion of the market). Compared to policy option 2, policy option 3 has higher sub-scores for increasing the enforcement by the competent authorities and further restricting access and strengthening controls (+2.5), but this policy option has a negative score for improving clarity and uniformity (-0.5) which lowers the overall score (+10.0).

Assessment criteria	Policy option 1	Policy option 2	Policy option 3
Align restrictions and controls with the evolving threat	+1.0	+2.0	+2.0
Further restrict access and strengthen controls	+0.5	+2.0	+2.5
Increase enforcement by the competent authorities of the Regulation	+1.5	+2.0	+2.5
Improve the transmission of information along the supply chain	+1.5	+2.0	+2.0
Improve the clarity of the Regulation and ensure uniformity in its application	+0.5	+2.0	-0.5
Facilitate intra-EU trade and prevent distortion of the market	+0.5	+1.0	+1.5
Total effectiveness	+5.5	+11.0	+10.0

Comparison of ‘Efficiency’

Policy option 1 scores best, with a low positive overall score (+1.5) because of the cost and administrative burden reducing effects of the proposed measures. Policy option 2 has a marginally negative score (-0.5), mainly due to increased costs and burden for the competent authorities (-0.5). The burden of compliance for economic operators is divided in a fair and proportionate way, by allocating some obligations early in the supply chain (e.g. labelling) and others at a later point (e.g. trainings and checks). Compared to policy option 2, policy option 3 scores much lower (-9.5) because of the considerable increase in costs and burden (-1.5/-2.0) for the different actors Supply chain actors (in particular retail) would see a substantial increase in their (administrative) burden⁶¹. This is mainly the result of the extended scope of the Regulation, both in terms of restrictions and reporting, and the introduction of measures such as the registration, transmission and processing of all transactions of professional users.

Assessment criteria	Policy option 1	Policy option 2	Policy option 3
Enforcement costs competent authorities	0	-0.5	-2.0
Administrative burden competent authorities	+0.5	-0.5	-2.0
Administrative burden economic operators	+0.5	+0.5	-2.0
Compliance costs etc. operators	+0.5	+0.5	-2.0
Economic losses etc. operators	0	-0.5	-1.5

⁶¹ This was confirmed by a vast majority of the consulted stakeholders.

Total efficiency	+1.5	-0.5	-9.5
------------------	------	------	------

Comparison of Impact on fundamental rights

Policy option 1 is the only policy option that would overall have a positive impact on fundamental rights (+1.5). It is the only option with positive scores for the protection of personal data (+1.0) and the right to non-discrimination (+0.5). Policy option 2 has a slightly negative impact (-0.5) due to the consequences the proposed measures would have for the freedom to conduct a business (-0.5). Policy option 3 receives the lowest score (-3.0) because it would negatively impact the freedom to conduct a business (-1.5) and the right to the protection of personal data (-1.5).

Assessment criteria	Policy option 1	Policy option 2	Policy option 3
Protection of personal data	+1.0	0	-1.5
Right to non-discrimination	+0.5	0	0
Freedom to conduct a business	0	-0.5	-1.5
Total Impact on fundamental rights	+1.5	-0.5	-3.0

Comparison of Coherence

On the basis of the evaluation (Annex 3), it emerged that the Regulation is in general consistent and complementary to key relevant EU legislation, such as the REACH and CLP Regulation and the Regulation on Drug Precursors. However, the analysis of the evaluation also showed that the framework would benefit in terms of coherence with regard to REACH, if the relevant provisions on ammonium nitrate are transferred to the Regulation without lowering the level of restrictions and controls. It is therefore estimated, that option 2 would make the framework more coherent as compared to the non-legislative option 1, which would not make the existing Regulation more or less coherent. Moreover, policy option 2 complements other product-specific legislation (e.g., on pyrotechnic articles and civil explosives) and would continue to exclude from its scope products that are specifically regulated by other EU legislation. By defining "professional user", option 2 would also promote coherence and ensure synergies with the corresponding definitions in CLP and REACH. Streamlining terminology and promoting synergies, whilst taking into account the differences in context and objectives, is important because it ensures the overall coherence of the EU legislative framework.

Option 3 would require the reporting of suspicious transactions involving non-scheduled substances, similar to the Regulation on Drug Precursors. However, the substantive extension of the Annexes under this option risks creating inconsistencies between the Regulation and other EU acts regulating the same chemicals, mixtures and substances.

Assessment criteria	Policy option 1	Policy option 2	Policy option 3
Coherence	0	+1	-0.5

8. PREFERRED OPTION

An overall assessment of the three policy options, shows that policy options 1 and 2 have positive total scores for the evaluation of the assessment criteria (+8.5 and +11) and policy option 3 has a negative score (-3.0).

Policy option 1 has positive scores for all assessment criteria, but the impacts or contributions of the proposed measures are moderate or small. Policy option 1's scores for effectiveness (+5.5), which measure to what extent the policy options contribute to the specific objectives set out in chapter 4, are low compared to the scores of policy options 2 and 3. The option's total score is also slightly lower than policy option 2's overall score. A majority of the SCP supported measures from policy option 1 as complementary, non-legislative initiatives to policy option 2.

Policy option 2 has the highest overall score and scores best on effectiveness (+11.0). The negative impacts on fundamental rights are small (-0.5) and were outbalanced in the comparison by the positive scores on the other assessment criteria. It has a slightly negative effect as regards efficiency due to the limited increase of the compliance and enforcement costs the set of new measures would imply. From the consultation process it emerged that the vast majority of the SCP and industry representatives of manufacturers and distributors supported policy option 2.

Policy option 3 has also high scores for effectiveness (+10.0), yet the negative scores regarding its efficiency and impacts on fundamental rights considerably lower the overall score. Policy option 3 is considered as unbalanced and disproportionate in terms of its economic impact and additional costs and administrative burden for stakeholders. Stakeholders consulted through surveys, interviews and workshops in the preparation of the impact assessment did not express support for policy option 3, estimating measures in this option as generally disproportionately restrictive and burdensome for economic operators and national authorities.

Based on this assessment, policy option 2 is the preferred policy option. Its positive impact would be increased if combined with certain measures under policy option 1, which should be further discussed with the SCP.

Assessment criteria	Policy option 1	Policy option 2	Policy option 3
Effectiveness	+5.5	+11	+ 10
Efficiency	+1.5	-0.5	-9.5
Impact on fund. rights	+1.5	-0.5	-3
Coherence	0	+1	-0.5
Total	+8.5	+11	-3

8.1. Advantages and proportionality of the preferred option

The most important feature of policy option 2 is to strengthen and clarify the existing legal framework without touching upon the essential characteristics of the Regulation. The proposed measures address the weaknesses and potential security gaps identified in the evaluation, but they do not constitute a complete overhaul of the system that is currently in place. Whilst this policy option would significantly contribute to all six specific objectives, none of the proposed actions would be disproportionate in view of their limited expected impacts on the market and in terms of

implementation and enforcement burden and costs. As the existing Regulation has at least partially reached the main objectives identified at the outset, a complete overhaul would seem unnecessary.

The negative impacts that some of the proposed measures may have on stakeholders, particularly in relation to the expected costs and additional administrative burden and the economic impacts. While these additional costs would not be disproportionate, their impact should be noted.

There will be a potential negative impact on the right to conduct business, notably for legal persons with no professional interest who would not be able to acquire restricted products, in MS where the ban is applied, or acquire restricted products only with a license, in MS where the licensing regime is applied.

8.2. REFIT (simplification and improved efficiency)

In the framework of the REFIT Platform, stakeholders recommended the Commission to explore possibilities for facilitating a unified application of the Regulation in the Member States such as establishing common conditions and criteria for licences as well as clarification of ambiguities. Member States also agreed that there was a need to clarify requirements on supply chain actors.

The measures proposed will clarify and improve the efficiency of the control measures currently applied. There is no data to quantify this simplification effect, but the outcome was positively assessed by operators consulted and is estimated to lead to a decrease of around 10% (€25 and 75 million) of the current costs of companies to comply with the Regulation,⁶²

As explained in section 6.1, the various measures under option 2 limit the divergences in restriction on explosive precursors across the EU, which will simplify the legal framework and make it clearer and easier to comply with the rules. This is especially useful for companies operating across the EU, who currently have to adapt to different regimes. The transfer of the restriction related to Ammonium Nitrate from REACH will make the legal framework more coherent and hence the more likely to be complied with and enforced.

Clarifications in the definitions of 'professional users' and 'members of the general public' will have a positive impact on uniformity in the application of the Regulation and reduce difficulties for companies in applying the Regulation. The labelling provision is amended to make clearer what is required from whom. This will reduce burdens on retailers and facilitate their identification of products concerned by the Regulation, making it easier for them to apply the requirements.

9. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?

In order to ensure an effective implementation of the measures foreseen, and monitor its results, the Commission should continue **working closely with the SCP Members and observers**, as well as any other relevant stakeholders from the Member State authorities, the chemical supply chain, and EU agencies and institutions (especially Europol and EU INTCEN).

⁶² See Annex 2 and Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative, Ernst & Young, Rand Europe, 2018.

The monitoring and evaluation framework should be based on a combination of surveys and reporting requirements for Member States which would provide the Commission with **data and information** that is essential to both monitoring the implementation of the restrictions and controls introduced and evaluating the Regulation at a later date. Most of this information will be gathered by the competent authorities and NCPs during the course of their duties and will therefore not require additional data collection efforts. Through the SCP, the Commission will also aim to collect data and information from the economic operators along the supply chain.

The table in Annex 8 summarizes the indicators proposed to monitor the achievement of the general and specific objectives as well as the operational objectives linked to the preferred option.

Indicators related to operational objectives are result indicators, which correspond to the activities to be implemented for the selected policy measures. Indicators related to specific objectives are outcome indicators, and those related to general objectives are impact indicators.

This **monitoring framework** is adding a negligible burden on Member States as it only requires the authorities responsible for the implementation of specific provisions of the Regulation to share data on their functioning (for example, NCPs on number of received reports). They would both benefit from, and contribute to, information exchange and cross-border cooperation. An important issue to take into account is the level of confidentiality of much of the data and information involved: the Commission will consult Member States on the appropriate level of confidentiality necessary for reports and meetings, in order to overcome concerns over information sharing.

Some of the necessary data and information might not be readily available to Member States authorities and economic operators. To collect these, a **targeted survey** could be conducted by the Commission, coinciding with the reporting requirement for the Commission on implementation.

The Commission intends to adopt a delegated act in accordance with Article 16 to establish a programme for monitoring the outputs, results and impacts of this Regulation. A **formal evaluation** of the effectiveness, efficiency, relevance, coherence and EU added value of the resulting legal framework should be carried out **6 years** after the deadline for implementation, to ensure that there is a sufficiently long period to evaluate after full implementation in all Member States. The evaluation shall include stakeholders' consultations to collect feedback on the effects of the legislative changes and the soft measures implemented. The benchmark against which progress will be measured is the baseline situation when the legislative act enters into force.

ANNEX 1: PROCEDURAL INFORMATION

Lead DG, Decide Planning/CWP references

- Lead DG: the Directorate-General for Migration and Home Affairs (DG HOME) prepared this initiative.
- Decide reference: PLAN/2016/505.
- CWP reference: this initiative appears in CWP 2018 under action 16 'Completing the Security Union': REFIT revision of the Regulation on marketing and use of explosive precursors (legislative, incl. impact assessment, Art. 114 TFEU, Q2 2018).

Organisation and timing

Chronology of the IA:

- In December 2015, the Commission's Action Plan against illicit trafficking in and use of firearms and explosives⁶³ announced the acceleration of the review of the Regulation foreseen in Article 18.
- In a first step, the Commission adopted in November 2016 three delegated acts⁶⁴ adding threat substances to Annex II of the Regulation. The acts were published in the Official Journal of the EU on 9 February 2017.
- In a second step, on 28 February 2017, the Commission adopted a report on the application of the Regulation.⁶⁵ This report concluded that changes to the Regulation were to be considered in order to increase the capacity of all those involved in implementing and enforcing the restrictions and controls. The Commission committed to carefully assessing the impact of possible new and strengthened measures.
- In a third and final step, a revision of the Regulation was formally launched on 30 May 2017 with the publication of an Inception Impact Assessment (IIA).⁶⁶ The feedback obtained on the IIA was taken into account in the Commission's design of the evaluation and impact assessment exercise and the drafting of Terms of Reference for an external supporting study.

⁶³ Communication from the Commission to the European Parliament and the Council Implementing the European Agenda on Security: EU action plan against illicit trafficking in and use of firearms and explosives. COM(2015) 624

⁶⁴ Commission delegated Regulations (EU) 2017/214, 2017/215 and 2017/216 of 30 November 2016.

⁶⁵ Report from the Commission to the European Parliament and the Council on the application of, and delegation of power under, Regulation (EU) 98/2013 of the European Parliament and of the Council on the marketing and use of explosives precursors, COM(2017)103

⁶⁶ Inception Impact Assessment on the Revision of the Regulation on the marketing and use of explosives precursors, Ares(2017)2706122. Available online: http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-2706122_en.

- To contract the external supporting study, request for services No 24, HOME/2016/ISFP/FW/EVAL/0107 was launched in the context of the multiple framework contract HOME/2015/EVAL/02 on 18 August 2017. An evaluation of the offers received was conducted in early November and a contract was signed on 28 November with Ernst & Young Special Business Services (lead partner), the Centre for International Legal Cooperation, and RAND Europe (hereafter, the consortium is referred to as 'EY').
- On 24 October 2017, the Commission announced the initiative in its 2018 Work Programme⁶⁷ and advanced the foreseen adoption date from the original Q4-2018 mentioned in the IIA to Q2-2018.
- The **consultation activities** that inform this impact assessment were carried out, informally, during the SCP meetings of 5 April and 12-13 September 2017, and, formally, between December 2017 and February 2018. The consultation process has involved relevant stakeholders, including Member States' experts from various relevant authorities, and representatives of the chemical supply chain, including manufacturers, distributors and retail. A Consultation Strategy followed the IIA and was published on Europa in a webpage dedicated to the revision of the Regulation.⁶⁸
- The methods and tool applied during the consultation process were in line with the consultation strategy:
 - An open public consultation was available between 6 December 2017 and 14 February 2018 on the Europa website.⁶⁹
 - A targeted consultation comprised two meetings of the SCP, on 12-13 December 2017 and on 21 February 2018, a survey sent by EY to over 200 stakeholders, in-depth interviews with over 50 stakeholders conducted, separately, by the Commission and EY, and a series of online workshops by EY.
- The consultations, as well as desk research and analysis, allowed the Commission to define the problem and identify policy objectives, policy options, and a preferred option. In addition, academic experts in the field of explosives have reviewed the supporting study produced by EY. The impact assessment is accompanied by an evaluation, in an annex, assessing the relevance, coherence, effectiveness, efficiency, and EU added value of the Regulation.
- The drafting of the impact assessment took place in February 2018 and March 2018, including the incorporation of feedback from the Regulatory Scrutiny Board (RSB).

⁶⁷ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Commission Work Programme 2018: An Agenda for a More United, Stronger and More democratic Europa. COM(2017)650

⁶⁸ Dedicated webpage: https://ec.europa.eu/home-affairs/what-is-new/work-in-progress/initiatives/revision-regulation-marketing-and-use-explosives-precursors_en

⁶⁹ Open Public Consultation on the Revision of the Regulation on the marketing and use of explosives precursors: https://ec.europa.eu/info/consultations/revision-eu-regulation-explosives-precursors_en

Impact Assessment Steering Group (IASG)

- An IASG chaired by the Secretariat-General (SG) and DG HOME was formally set up in March 2017.
- The following DGs participated in the IASG: the Legal Service; DG GROW, DG ENV, DG JRC, DG TAXUD, and EEAS. In addition, DG ECHO, DG TRADE, DG SANTE, and were invited but did not attend. Europol also attended the IASG.
- The IASG met five times between February 2017 and February 2018.⁷⁰ The discussions held covered the inception impact assessment, the consultation strategy, the terms of reference for a supporting study, the questionnaire for the public consultation, the survey for the targeted consultation, and the various drafts of the impact assessment.

Consultation of the Regulatory Scrutiny Board

The Regulatory Scrutiny Board received the draft version of the present impact assessment report on 2 March 2018. It issued an impact assessment quality checklist on 16 March 2018 with a number of comments. A response to the RSB quality checklist was sent in advance to the RSB meeting on 20 March 2018, which specified how each of the RSB comments would be incorporated to the final version of the impact assessment.

During the meeting with the RSB on 21 March 2018, the following was discussed:

- The criteria and risk assessments used to determine what substances are included in the Annexes
- Online sales of explosives precursors
- Enforcement measures taken by the Commission (incl. infringements)
- The likely costs of the different policy options for the private and the public sector

The risk of inconsistency with other legislation on chemicals The RSB issued a positive opinion on 23 March 2018 with a number of recommendations that completed the previously issued quality checklist. All of the RSB comments were incorporated into the final version of this document. The recommendations described in the RSB opinion were incorporated as follows:

RSB comment	How it was incorporated in the IA
The report does not present a full range of policy options. It does not examine	Section 5 now explains how the different policy options were designed, and why these particular options were selected. Why sub-

⁷⁰ The first meeting, on 7 February 2017, was informally held as the initiative had not yet been politically validated.

intermediate options between the preferred option and a maximalist option that is more effective but also more costly.	options were not included is explained in section 5.2. In the description of policy option 2 is explained why discontinuation of licensing regimes was not considered under this option.
The report does not present stakeholders' views transparently enough.	Stakeholders' views have been incorporated in various sections in the report. Annex 2 has been revised to better reflect the views of different stakeholder groups and the results of the OPC have been included in this Annex.
The report should clarify how the preferred policy option also makes the regulation more proactive. For example, the preferred option modifies the selection process of substances that will be regulated in ways that respond more rapidly to emerging concerns. As there is a large gap between the preferred policy option and the more ambitious one that the report finds disproportionately costly, the report should explain why it does not consider an intermediate policy option that includes some of the less costly components of this ambitious policy option.	Section 5 now explains how the different policy options were designed, and why these particular options were selected. Why sub-options were not included is explained in section 5.2 and in Annex 7 on the discarded options.
The report should more transparently report the available evidence of what different stakeholder groups think about the alternative policy options. A table showing numbers of positive and negative responses as well as blank responses on key questions might help. The report could usefully explain the points on which stakeholders have expressed concerns and how the preferred option takes those concerns into account.	The results of the OPC have been incorporated in the report, to address the issue of transparency. Throughout the report references to stakeholders' views have been incorporated. Additional information on how these concerns have been addressed has also been added.
The report should clarify how the preferred policy option ensures consistency, now and in the future, between this Regulation and other EU law that regulates the same chemical substances (e.g. REACH). It should explain relevant differences in scopes and purposes of the various legislations and how undue burdens are avoided.	Coherence with other EU legislation has been clarified in sections 1, 7 and 9. Section 1 now better explains the differences in scope and purpose. Sections 5 and 7 explain how coherence is ensured under the different options, and in particular under the preferred option. _
The report should clarify the selection process of the substances in the annexes of	DG HOME included information on the selection process of the substances in the

the Regulation. It could show which authorities and stakeholders are involved in evaluating threat levels and assessing risks linked to substances. It should explain how these decisions are prepared and taken in practice.	Annexes of the Regulation (see sections 2 and 5).
The report should clarify how the Regulation applies to online sales of explosives precursors. It could also show how the various policy options address the issue of online sales. More generally, the report should present Commission measures to improve enforcement of the Regulation.	The report now clearly states that the Regulation applies to online sales. Section 5 has been modified, and for each section is now explained how the issue of online sales will be addressed. Additional information on enforcement has been included in the report, including in the monitoring and evaluation section.

Evidence, main sources and external expertise

Ernst and Young (2018), Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative, Brussels.

European Commission (2016), 'September infringements' package: key decisions', MEMO/16/3125, Brussels.

European Commission (2017), 'February infringements' package: key decisions', MEMO/17/234, Brussels.

European Commission (2017), 'Minutes of the Sixth REFIT PLATFORM stakeholder group meeting, 8 June 2017', Brussels.

Europol (2017), EU Terrorism Situation and Trend Report (TE-SAT), Europol, The Hague.

EUROSTAT International Trade in Goods, available [here](#).

EUROSTAT PRODCOM Database, available [here](#).

EUROSTAT Structural Business Statistics (SBS), available [here](#).

Global Terrorism Database (GTD), available [here](#).

ANNEX 2: SYNOPSIS REPORT OF THE STAKEHOLDER CONSULTATION

This annex is the synopsis report of all stakeholder consultation activities undertaken in the context of the evaluation and the impact assessment.

Objectives of the consultation

The consultation aimed to:

- 1) Collect objective data, information, and evidence which is necessary in assessing the five key evaluation criteria under the Commission's Better Regulation guidelines;⁷¹
- 2) Collect views on the issues at stake and suggested EU involvement, as well as opinions, ideas and concerns about possible solutions and impacts; and
- 3) Collect evidence, data and views on the possible policy options and their potential impacts.

The following stakeholder groups were concerned by the initiative:

- Members of the general public
- Public authorities: In the Regulation, reference is made to:
 - *Competent authorities*, who are responsible for implementing, applying and enforcing any measure they adopt to implement the Regulation. Their role is especially important when it comes to 1) disseminating information about the restrictions and controls to the economic operators, 2) evaluating requests for licenses in Member States where there is a licensing regime, and 3) ensuring that rules on penalties are enforced. Typically, the designated competent authorities⁷² are from the ministries of interior or economics.
 - *NCPs*, who are responsible for receiving reports of suspicious transactions, disappearances and thefts. Typically the designated NCPs⁷³ are within the police.
- Economic operators: (i.e. 'any natural or legal person or public entity or group of such persons and/or bodies which delivers products or services on the market'). This category includes a wide range of types of operators, such as manufacturers, distributors, retailers; SMEs, online marketplaces, and professional end-users, with at times diverging interests and views. National- and European-level associations representing economic operators were also consulted.

⁷¹ Effectiveness, efficiency, coherence, relevance and EU added value. More at http://ec.europa.eu/smart-regulation/guidelines/tool_42_en.htm.

⁷² A list is available at http://ec.europa.eu/dgs/home-affairs/what-we-do/policies/crisis-and-terrorism/explosives/explosives-precursors/index_en.htm

⁷³ Same as above.

- Members and Observers of the Commission's SCP⁷⁴ were among the key stakeholders consulted. This expert group brings together Member States, stakeholders from industry, including retail, other Commission groups discussing explosives, pyrotechnics, fertilisers, and the REACH Regulation,⁷⁵ and relevant EU agencies, such as Europol.

The consultation process aimed at reaching a geographical and sectorial balance within the European Economic Area (EEA),⁷⁶ and ensuring that the pool of consulted stakeholders was representative of the larger societal and economic interests in Europe.

The aim of this synopsis report is to give evidence of the main opinions of the different categories of stakeholders on the trends linked to the application and effects of the Regulation.

Consultation methods and tools

This Synopsis report is structured according to the main consultation activities undertaken within the context of the evaluation and the impact assessment namely:

- The survey carried out by the external contractor (Ernst & Young) launched on 21 December and closed on 20 January which addressed NCAs, NCPs and Economic Operators;
- The Interviews performed by the external contractor (EY) with a selected number of NCAs), NCPs and economic operators ;
- The Open Public Consultation carried out by DG HOME, launched on 6 December and closed on 14 February.

The main results of each activity are reported in two different sections: the evaluation and the Impact assessment. The results are reported according to the context description and the evaluation criteria for the evaluation part.⁷⁷

Results of the consultation activities - Evaluation

Survey carried out by the external contractor

Context

The majority of respondents reported that the substances that are now regulated were not subject to any restrictions before the Regulation became applicable,⁷⁸ and the main non legislative measures concerned awareness raising activities.⁷⁹ Economic operators and

⁷⁴ <http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3245>

⁷⁵ OJ L 396, 30.12.2006, p. 1.

⁷⁶ Regulation EU 98/2013 is EEA-relevant.

⁷⁷ Relevance, Coherence, Effectiveness, Efficiency and EU Added Value.

⁷⁸ On average 46% (n=19).

⁷⁹ Survey feedback: 12 representatives from economic operators and 23 representatives from NCAs/NCPs.

NCAs/NCPs consulted are now more aware of the restrictions and controls set by the Regulation.⁸⁰

- The Regulation contributed to a low/very low extent to the smooth movement of explosives precursors within the internal market according to most economic operators⁸¹ whereas NCA/NCP do not show to have a predominant opinion. It moreover contributed to a low/moderate extent to harmonising controls and penalties across Member States.⁸²
- The Regulation contributed to a moderate extent to improving traceability of sales and transactions concerning explosives precursors only for NCA/NCP whereas for economic operators it contributed to a moderate/high extent.⁸³
- The Regulation contributed to a moderate extent to increasing the security⁸⁴ and to a moderate/high extent to raising awareness of the supply chain concerning risks related to the misuse of explosives precursors.⁸⁵
- The main issues that raise security concerns are the unauthorised internet sales of explosives precursors⁸⁶ followed by the insufficient level of awareness along the supply chain⁸⁷ and the existence of different criteria to grant or refuse licences across the EU.⁸⁸
- The current and future challenges in preventing the misuse of explosives precursors to manufacture HMEs concern control on the internet sales,⁸⁹ the identification and the

⁸⁰ Survey feedback: 100% (n=31) of the respondents among the economic operators and 98% (n=40) among the NCA/NCP category answered 'yes' to the question "Are you aware of the restrictions and controls set by Regulation 98/2013 on the marketing and use of explosives precursors?"

⁸¹ Survey feedback: 74% of the economic operators (n=14) answered 'low extent' or 'very low extent' to the question "Based on your experience, to what extent has Regulation 98/2013 contributed to the following results: smooth movement of explosives precursors within the internal market?"

⁸² Survey feedback: 57% (n=13) of economic operators and 67% of NCAs/NCPs (n=24) answered 'low extent' or 'moderate extent' to the question "Based on your experience, to what extent has Regulation 98/2013 contributed to the following results: harmonised controls and penalties across Member States?"

⁸³ Survey feedback: 53% (n=20) of NCAs/NCPs answered 'Moderate extent' and 63% (n=15) of economic operators answered 'Moderate extent' or 'High extent' to the question "Based on your experience, to what extent has Regulation 98/2013 contributed to the following results: Improved traceability of sales and transactions concerning explosives precursors?"

⁸⁴ Survey feedback: 48% (n=12) of economic operators and 69% of NCAs/NCPs (n=25) answered 'Moderate extent' to the question "Based on your experience, to what extent has Regulation 98/2013 contributed to the following results: increased security?"

⁸⁵ Survey feedback: 79% (n=17) of economic operators and 92% of NCAs/NCPs (n=34) answered 'Moderate extent' or 'High extent' to the question "Based on your experience, to what extent has Regulation 98/2013 contributed to the following results: raised awareness of the supply chain concerning risks related to the misuse of explosives precursors?"

⁸⁶ Survey feedback: 65% (n=41) of the respondents answered 'High extent' or 'Very high extent' to the question "In your opinion, to what extent do the issues listed below raise today a security concern in your country: unauthorised internet sales of explosives precursors?"

⁸⁷ Survey feedback: 43% (n=29) of the respondents answered 'High extent' or 'Very high extent' to the question "In your opinion, to what extent do the issues listed below raise today a security concern in your country: level of awareness along the supply chain?"

⁸⁸ Survey feedback: 39% (n=19) of the respondents answered 'High extent' or 'Very high extent' to the question "In your opinion, to what extent do the issues listed below raise today a security concern in your country: existence of different criteria to grant or refuse licenses across the EU?"

⁸⁹ Survey feedback: Ten economic operators and 12 NCAs/NCPs.

awareness raising of the last segment of the supply chain,⁹⁰ the further harmonisation of regimes across Member States,⁹¹ and the possible use of alternative substances by terrorists.⁹²

- There are not sufficient data to design a trend on the number of suspicious transactions, disappearances and thefts involving substances listed in Annex I and II reported to the NCPs since the Regulation became applicable.
- Verifications that the conditions under which the licences were granted are still fulfilled are never performed⁹³ whereas investigations related to reported suspicious transactions, disappearances and thefts are often/always performed.⁹⁴

Relevance

- The scope and content of the Regulation meet current needs in terms of ensuring the free movement of explosives precursors within the internal market and in preventing the misuse of explosives precursors against public security to a moderate/high extent.⁹⁵
- Substances that should be added to the list of restricted substances (Annex I) are Ammonium nitrate,⁹⁶ and sulphuric acid⁹⁷ –even if there is less consensus on this last one– while hydrogen peroxide should be added to Annex II according to stakeholders.⁹⁸
- The definition of "member of the general public" is appropriate to a high/very high extent.⁹⁹

Coherence

⁹⁰ Survey feedback: Seven representatives from economic operators and 11 representatives from NCAs/NCPs.

⁹¹ Survey feedback: Three representatives from economic operators and six representatives from NCAs/NCPs.

⁹² Survey feedback: One representative from economic operators and six representatives from NCAs/NCPs.

⁹³ Survey feedback: 54% (n=13) of NCAs/NCPs respondents answered 'Never' to the question "How often are the following monitoring and control activities performed in your country: verification that the conditions under which the licenses were granted are still fulfilled".

⁹⁴ Survey feedback: 54% (n=15) of NCAs/NCPs respondents answered 'Often' or 'Always' to the question "How often are the following monitoring and control activities performed in your country: investigation related to reported suspicious transactions, disappearances and thefts?".

⁹⁵ Survey feedback: 67% (n=18) of respondents from economic operators and 71% (n=22) from NCAs/NCPs answered 'Moderate extent' or 'High extent' to the question "To what extent does the scope and content of Regulation 98/2013 meet current needs in terms of: ensuring the free movement of explosives precursors within the internal market". Whereas, 79% (n=23) of respondents from economic operators and 81% (n=29) of respondents from NCAs/NCPs answered 'Moderate extent' or 'High extent' to the question "To what extent does the scope and content of Regulation 98/2013 meet current needs in terms of: preventing the misuse of explosives precursors against public security".

⁹⁶ Survey feedback: Eight representatives from NCAs/NCPs.

⁹⁷ Survey feedback: Three representatives from NCAs/NCPs.

⁹⁸ Survey feedback: Four representatives from NCAs/NCPs.

⁹⁹ Survey feedback: 67% (n=18) of economic operators and 57% of NCAs/NCPs (n=21) answered 'High extent' or 'Very high extent' to the question "To what extent is the definition of "member of the general public" appropriate?".

- There are no inconsistencies or overlaps between the Regulation and Regulations 1907/2006 and 1272/2008, and Directives 2013/29/EU and 2014/28/EU.¹⁰⁰ The bone of contention is the presence of ammonium nitrate in the Regulation and in REACH that generates confusion on how it should be regulated.¹⁰¹

Effectiveness

- There is a moderate/high deterrent effect of the Regulation (especially according to economic operators):¹⁰²
 - Aspects that contribute to the deterrent effect are the fact that the selling of some products was discontinued and more effort is put to limit the misuse of precursors.¹⁰³ In general, the acquisition of explosives precursors is more difficult.¹⁰⁴
 - Aspects that reduce the deterrent effect are the security concerns posed by Internet,¹⁰⁵ the fact that the Regulation has been implemented only recently by some MS;¹⁰⁶ there is not the desired level of awareness;¹⁰⁷ the existence of different regimes,¹⁰⁸ the relevance of the deterrent effect mainly small crimes.¹⁰⁹
- The Regulation contributed to ensuring the appropriate reporting of suspicious transactions throughout the supply chain to a moderate extent.¹¹⁰
- The Regulation contributed to limiting the availability of explosives precursors to the general public to a moderate/high extent.¹¹¹
- The Regulation positively contributed to raising awareness,¹¹² exchange of good practices,¹¹³ trainings,¹¹⁴ development of voluntary code of conduct,¹¹⁵ and cross border cooperation.¹¹⁶

¹⁰⁰ Survey feedback: 71% (n=25 on average) of respondents answered “no” to the survey question “Are there inconsistencies or overlaps between Regulation 98/2013 and any of the following EU pieces of legislation?”

¹⁰¹ Survey feedback: Five representatives from economic operators and six representatives from NCAs/NCPs.

¹⁰² Survey feedback: 88% (n=21) of economic operators and 83% of NCAs/NCPs (n=29) answered ‘Moderate extent’ or ‘High extent’ to the question “In your opinion, to what extent did Regulation 98/2013 have a deterrent effect against the misuse of explosives precursors?”.

¹⁰³ Survey feedback: two representatives from economic operators.

¹⁰⁴ Survey feedback: Two representatives from NCAs/NCPs.

¹⁰⁵ Survey feedback: four representatives from economic operators, two representatives from NCAs/NCPs.

¹⁰⁶ Survey feedback: three representatives from economic operators.

¹⁰⁷ Survey feedback: four representatives from NCAs/NCPs and four from economic operators.

¹⁰⁸ Survey feedback: four representatives from NCAs/NCPs and one from economic operators.

¹⁰⁹ Survey feedback: Three representatives from economic operators, two representatives from NCAs/NCPs.

¹¹⁰ Survey feedback: 40% (n=10) of economic operators and 56% (n=20) of NCAs/NCPs answered ‘Moderate extent’ to the question “Based on your experience, to what extent Regulation 98/2013 contributed to the following objectives: ensuring the appropriate reporting of suspicious transactions throughout the supply chain?”.

¹¹¹ Survey feedback: 78% (n=21) of economic operators and 79% (n=30) of NCAs/NCPs answered ‘Moderate extent’ or ‘High extent’ to the question “Based on your experience, to what extent Regulation 98/2013 contributed to the following objectives: limiting the availability of explosives precursors to the general public?”.

¹¹² Survey feedback: 83% (n=19) of economic operators and 100% (n=39) of NCAs/NCPs answered ‘Increased’ to the question “How did the following initiatives develop since the Regulation 98/2013 became applicable: awareness of raising initiatives?”.

- There is less consensus on the contribution of the Regulation to the development of public-private partnerships.¹¹⁷
- Practices in selling explosives precursors of economic operators changed to a moderate extent since the Regulation became applicable.¹¹⁸
- Since the Regulation became applicable, the engagement of actors increased in bilateral or regional meetings with other Member States, information exchange, participation to other meetings at the EU level and participation to the SCP.¹¹⁹ It remained the same in Joint enforcement operations.¹²⁰
- There is room for simplification for economic operators¹²¹ whereas NCAs/NCPs have heterogeneous opinions.¹²² Areas for improvement concern:
 - The labelling and identification of products;¹²³
 - The professional user definition;¹²⁴
 - The diversities in regimes;¹²⁵
 - The reporting of suspicious transactions.¹²⁶

¹¹³ Survey feedback: 74% (n=14) of economic operators and 79% (n=26) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: exchange and adoption of good practices?"

¹¹⁴ Survey feedback: 74% (n=14) of economic operators and 66% (n=21) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: training programs aimed at economic operators (included e-courses)?"

¹¹⁵ Survey feedback: 81% (n=13) of economic operators and 60% (n=18) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: voluntary codes of conduct?"

¹¹⁶ Survey feedback: 80% (n=24) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: cross border cooperation?"

¹¹⁷ Survey feedback: 50% (n=6) of economic operators and 59% (n=19) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: voluntary codes of conduct?"

¹¹⁸ Survey feedback: 80% (n=24) of NCAs/NCPs answered 'Increased' to the question "How did the following initiatives develop since the Regulation 98/2013 became applicable: establishment of private-public partnership?"

¹¹⁹ Survey feedback: 38% (n=8) of economic operators answered 'Moderate extent' to the question "To what extent did your practices in selling explosives precursors change since the Regulation 98/2013 became applicable?"

¹²⁰ Survey feedback: 73% (n=24), 78% (n=28), 69% (n=25), 86% (n=31) of respondents answered 'Increased' to the question "Since Regulation 98/2013 became applicable, how has your engagement in the following cross-border activities with other National Competent Authority/National Contact Point evolved?" against bilateral or regional meetings with other Member States, information exchange, participation to other meetings at the EU level and Participation to SCP respectively.

¹²¹ Survey feedback: 73% (n=16) of respondents answered 'Remained the same' to the question "Since Regulation 98/2013 became applicable, how has your engagement in the following cross-border activities with other National Competent Authority/National Contact Point evolved: joint enforcement operations?"

¹²² Survey feedback: 65% (n=11) of respondents from economic operators answered 'yes' to the question "Do you see any room for simplifying the provisions of the Regulation 98/2013?"

¹²³ Survey feedback: 53% (n=16) reported there is no room for improvement and 47% (n=14) that there is to the question "Do you see any room for simplifying the provisions of the Regulation 98/2013?"

¹²⁴ Survey feedback: Four representatives from economic operators and two representatives from NCAs/NCPs

¹²⁵ Survey feedback: Three representatives from NCAs/NCPs and two from economic operators.

¹²⁶ Survey feedback: Three representatives from economic operators and 10 representatives from NCAs/NCPs.

Efficiency

- Costs entailed by the Regulation borne by organisations overall stayed broadly the same. NCAs/NCPs reported that there was a little increase on costs incurred to carry out monitoring, inspections and reporting activities¹²⁷ and costs related to investigation activities.¹²⁸
- The activities related to the implementation of the Regulation require low effort (less than a day or a day for FTE over one month).¹²⁹ Activities include, for instance, affixing or verifying labelling, checking a licence, dealing with reports of suspicious transactions, disappearances and thefts, identifying products concerned by the reporting obligation, imposing penalties, and obtaining information about the restrictions and controls.
- Room for cost savings in the activities generated by the Regulation concern mainly the harmonisation of rules of labelling.¹³⁰
- The use of additives inhibiting the re-concentration and/or the use in synthesis of primary explosives of explosives precursors, at the current moment, contribute to reducing compliance costs currently entailed by the Regulation from a low to moderate extent¹³¹ and to reducing risks arising from the misuse of explosives precursors to a low/moderate extent for EO and to a moderate/high extent for NCA/NCP.¹³²
- There is not sufficient data to design a trend over the years on the number of licence applications processed and granted and on the number of transactions registered.

¹²⁶ Survey feedback: Two representatives from economic operators and one representatives from NCAs/NCPs.

¹²⁷ Survey feedback: 53% (n=10) of respondents from NCAs/NCPs answered 'increased a little' to the question "Please select which costs, borne by your organisation, are entailed by the Regulation and indicate their trend under its application: costs incurred to carry out monitoring, inspections and reporting activities".

¹²⁸ 56% (n=9) of respondents from NCAs/NCPs answered 'increased a little' to the question "Please select which costs, borne by your organisation, are entailed by the Regulation and indicate their trend under its application: costs related to investigation activities".

¹²⁹ Survey feedback: 62% (n=8), 70% (n=7), 61% (n=11), 73% (n=8), 90% (n=9), 80% (n=12) and 64% (n=9) of respondents answered 'Less than a day of work for a FTE' or 'A day of work for a FTE' against Affixing or verifying labelling, Checking a license, Dealing with reports of suspicious transactions, disappearances and thefts, Identifying products concerned by the reporting obligation, Imposing penalties, Obtaining information about the restrictions and controls and Reporting a suspicious transaction, disappearance, or theft respectively to the question "How much effort do the following activities require during the course of one month to your organisation?".

¹³⁰ Survey feedback: Four representatives from economic operators.

¹³¹ Survey feedback: 63% (n=10) of economic operators and 62% (n=8) of NCAs/NCPs answered 'Low extent' or 'Moderate extent' to the question "In your opinion, to what extent could the use of additives inhibiting the re-concentration and/or the use in synthesis of primary explosives of explosives precursors, at the current moment, contribute to the following: reduce compliance costs currently entailed by Regulation 98/2013?". The option "reduce compliance costs currently entailed by Regulation 98/2013" had 68% (n=27) of 'Do not Know' answers.

¹³² 50% (n=8) of economic operators answered 'Low extent' or 'Moderate extent' while 58% (n=15) of NCAs/NCPs answered 'Moderate extent' or 'High extent' to the question "In your opinion, to what extent could the use of additives inhibiting the re-concentration and/or the use in synthesis of primary explosives of explosives precursors, at the current moment, contribute to the following: reduce risks arising from the misuse of explosives precursors?".

- There is not sufficient data to design a trend over the years on the number of cases where penalties related to infringements of the Regulation have been imposed and on the number of inspections performed.

EU Added Value

- EU intervention will continue to be needed especially for further harmonisation to a high/very high extent¹³³ but also to mitigate security risks¹³⁴ and avoid market distortion¹³⁵ to a moderate/high extent.

Interviews

Context

- Some interviewees did not notice a change in the marketing, use and reporting of suspicious transactions of explosives precursors because some Member States started to implement the Regulation only recently,¹³⁶ while some had already in place relevant restrictive measures.¹³⁷
- The use of some regulated explosives precursors has decreased. Some economic operators took off the shelves products including explosives precursors and some shops made “chemistry rooms” to better control the sales.¹³⁸
- After the entry into force of the Regulation some economic operators restricted the regulated precursors,¹³⁹ however economic operators reported not to have faced major changes in the sector after the Regulation became applicable.¹⁴⁰
- There was an increase in attempts of members of the general public in buying precursors from Member States applying a slack regime and through the Internet.¹⁴¹
- Some online market places prohibited the sale of products with high concentration of regulated substances.¹⁴²
- Factors influencing the misuse of explosives precursors concern the availability of substances (e.g. as fertilisers (AN), as fuels (nitromethane) or as pyrotechnic articles

¹³³ Survey feedback: 53% (n=13) of economic operators and 65% (n=27) of NCAs/NCPs answered ‘High extent’ or ‘Very high extent’ to the question “To what extent do the following issues addressed by the Regulation 98/2013 continue to require action at the EU level rather than at national level: harmonisation at the EU level?”.

¹³⁴ Survey feedback: 56% (n=14) of economic operators and 59% (n=24) of NCAs/NCPs answered ‘Moderate extent’ or ‘High extent’ to the question “To what extent do the following issues addressed by the Regulation 98/2013 continue to require action at the EU level rather than at national level: security risks?”.

¹³⁵ Survey feedback: 48% (n=12) of economic operators and 40% (n=16) of NCAs/NCPs answered ‘Moderate extent’ or ‘High extent’ to the question “To what extent do the following issues addressed by the Regulation 98/2013 continue to require action at the EU level rather than at national level: market distortions?”.

¹³⁶ Interview feedback: six representatives from NCAs, three from NCPs, and three from economic operators.

¹³⁷ Interview feedback: two representatives from NCAs and three from NCPs.

¹³⁸ Interview feedback: six representatives from NCAs, one from NCPs, and one from economic operators.

¹³⁹ Interview feedback: four representatives from economic operators.

¹⁴⁰ Interview feedback: 16 representatives from economic operators.

¹⁴¹ Interview feedback: 10 representatives from NCAs, two from NCPs, and two from economic operators.

¹⁴² Interview feedback: three representatives from NCAs and one from NCPs.

(chlorates)) and the ease in their use.¹⁴³ The presence of jihad fighters and the unstable situation in the Middle East may influence the misuse of explosives precursors.¹⁴⁴ These characteristics are aggravated by the fact that recipes to make HME are easily available online.¹⁴⁵

- Current and future challenges in preventing the misuse of explosives are:
 - To identify all actors in the supply chain and the relative products concerned and make them aware of the potential dangerousness.¹⁴⁶
 - To control the transactions and the information available on the internet and on the dark web.¹⁴⁷
- Some underlined that the regulation of some substances may push terrorists to look for alternative substances for criminal purposes.¹⁴⁸ Even if it has been proved that thanks to the use of some additives it is possible to inhibit the explosive power of the precursors with the garage chemistry, it can also be possible to come back to the original status of the substance. Therefore, the challenge would be to make the process irreversible, the so-called *garage chemistry* may also enable the self-making of precursors.¹⁴⁹
- Different regimes and the lack of mutual recognition of licences make the cross-border procurement more challenging.¹⁵⁰

Relevance

- The Regulation is judged overall relevant but solving some issues (e.g. moving some substances and a more precise definition of labelling and economic operator) would make it more relevant.¹⁵¹ Suggestions include to reduce the level of Hydrogen peroxide and Nitromethane (as for this last one they took part to the "Expedia" project and they found that this value should be lowered),¹⁵² and the restriction of controls on Ammonium Nitrate (and maybe add it to Annex I to reflect REACH)¹⁵³ and on Sulphuric Acid, that should be moved to Annex I.¹⁵⁴
- The definition of "professional user"¹⁵⁵ and that of Economic Operator¹⁵⁶ seem not to be clear.

¹⁴³ Interview feedback: eleven representatives from NCAs and one from EU Agencies.

¹⁴⁴ Interview feedback: four representatives from NCAs.

¹⁴⁵ Interview feedback: eight representatives from NCAs.

¹⁴⁶ Interview feedback: six representatives from NCAs and one NCPs.

¹⁴⁷ Interview feedback: two representatives from NCAs four NCPs and four economic operators.

¹⁴⁸ Interview feedback: six representatives from NCAs one NCPs, one representative from EU Agencies and three economic operators.

¹⁴⁹ Interview feedback: four representatives from NCAs and one from economic operators.

¹⁵⁰ Interview feedback: two representatives from one NCAs, three economic operators, and two NCPs.

¹⁵¹ Interview feedback: three representatives from NCAs three from NCPs and eight economic operators.

¹⁵² Interview feedback: four representatives from NCAs.

¹⁵³ Interview feedback: one representative from EU Agencies.

¹⁵⁴ Interview feedback: four representatives from NCAs and four from economic operators.

¹⁵⁵ Interview feedback: 10 representatives from NCAs.

¹⁵⁶ Interview feedback: two representatives from NCAs and four from economic operators.

- The provision on labelling seems not to be sufficiently clear, in particular with regard to the scope of the precursors concerned,¹⁵⁷ and who should be the responsible for labelling (retailers or manufacturers).¹⁵⁸ It seems that labelling requirements involve also the products under the ban, whereas it should not be the case as products should not be available to members of the general public.¹⁵⁹

Effectiveness

- The Regulation contributed to improving the level of protection in the EU even though it is difficult to quantify its impact.¹⁶⁰ Overall, the Regulation brought more awareness and willingness to control the regulated substances¹⁶¹ (even though a higher level of awareness should be appreciated¹⁶²) and it strengthened the cooperation between NCA, Police forces and industries.¹⁶³
- The Regulation contributed to ensuring the appropriate reporting by setting the obligation to report in case of suspicious transaction but the definition of suspicious transaction seems not to provide sufficient guidance to detect them¹⁶⁴ and requires the training of staff to be sufficiently competent to recognise them,¹⁶⁵ especially when a transaction is performed online.¹⁶⁶
- The Regulation contributed to limiting the availability of explosives precursors¹⁶⁷ but the transport of explosives precursors across Member States is not sufficiently monitored and could limit the effectiveness of the Regulation.¹⁶⁸
- The freedom in choosing different regimes to apply brought to a lower level of harmonisation across Europe and creates security gaps and uncertainties.¹⁶⁹
- The Regulation contributed to improving the traceability of transactions because economic operators have requirements of registration linked to reports.¹⁷⁰ economic operators implemented awareness raising actions, included trainings to personnel;¹⁷¹
- There could be country specific factors that may influence the effectiveness of the Regulation, i.e. the level of priority that countries give to precursors may depend on the risk of terrorist attacks (that is not evenly distributed across Member States).¹⁷²

¹⁵⁷ Interview feedback: five representatives from NCAs and four NCPs.

¹⁵⁸ Interview feedback: 10 representatives from NCAs and one NCPs and 12 from economic operators.

¹⁵⁹ Interview feedback: eight representatives from NCAs.

¹⁶⁰ Interview feedback: eight representatives from NCAs and three from economic operators.

¹⁶¹ Interview feedback: six representatives from NCPs, eight NCAs and eleven from economic operators.

¹⁶² Interview feedback: three representatives from economic operators; one representative from EU Agencies.

¹⁶³ Interview feedback: seven representatives from NCAs and five NCPs.

¹⁶⁴ Interview feedback: 11 representatives from economic operators.

¹⁶⁵ Interview feedback: 10 representatives from NCAs, six NCPs and seven from economic operators.

¹⁶⁶ Interview feedback: two representatives from NCAs.

¹⁶⁷ Interview feedback: nine representatives from NCAs, two from economic operators and one NCPs.

¹⁶⁸ Interview feedback: five representatives from NCPs and nine from economic operators.

¹⁶⁹ Interview feedback: six representatives from NCAs, one representative from EU Agencies, three from economic operators, and two NCPs.

¹⁷⁰ Interview feedback: three representatives from NCAs and one NCPs.

¹⁷¹ Interview feedback: nine representatives from economic operators.

¹⁷² Interview feedback: eight representatives from NCAs and two from economic operators.

- There is room for simplification if the registration regime was dropped and there was mutual recognition of licences,¹⁷³ and if there was a clarification on the definition of economic operator and professional user.¹⁷⁴

Efficiency

- Costs involve information activities and trainings.¹⁷⁵
- Inspections are costly but in the coming years are expected to benefit from economies of scale.¹⁷⁶
- Overall benefits brought by the Regulation are higher than costs for NCAs and NCPs.¹⁷⁷ economic operators have not encountered major costs.¹⁷⁸
- One of the major benefits is the awareness raised among the actors involved in the supply chain.¹⁷⁹

EU Added Value

- The SCP is good for sharing information both between MS and among various actors (i.e. authorities and EO).¹⁸⁰
- The Regulation contributed to the creation of a common language on explosives precursors and a minimum level of harmonisation across Europe that could not be achieved at national level only.¹⁸¹
- The creation of NCPs and NCAs smoothed the process in creating synergies among Member States.¹⁸²

Open Public Consultation

Overview of responses

A total of 83 stakeholders participated in the public consultation.

The majority of respondents are representatives from businesses/private companies (35) and non-profit organisations (16). The rest of the respondents include independent experts (8), EU citizens (6), representatives of public authorities (7), pan-European interest groups (5), national trade associations (5) and academic/research institutions (1).

¹⁷³ Interview feedback: five representatives from NCAs and one NCPs and three from economic operators.

¹⁷⁴ Interview feedback: four representatives from NCAs.

¹⁷⁵ Interview feedback: two representatives from NCAs and one from economic operators.

¹⁷⁶ Interview feedback: two representatives from NCAs.

¹⁷⁷ Interview feedback: five representatives from NCAs and one from NCPs.

¹⁷⁸ Interview feedback: eleven representatives from economic operators.

¹⁷⁹ Interview feedback: six representatives from NCPs and nine NCAs.

¹⁸⁰ Interview feedback: three representatives from NCPs.

¹⁸¹ Interview feedback: six representatives from NCPs eleven from economic operators and four NCPs.

¹⁸² Interview feedback: four representatives from NCAs.

Most respondents reported that they reside or perform their activities in Germany (26), France (17), and Belgium (9). The remaining stakeholders reside or perform their activities in Italy (7), the Czech Republic (4), Poland (3), Greece, the Netherlands and Portugal (2 each), Austria, Finland, Hungary, Romania, Spain, and the United Kingdom (1 each). Five respondents reside or perform their activities in non-EU countries (namely Norway and Switzerland).

Two thirds of the respondents report being involved with restricted explosives precursors for their professional activities, including sale (48%), distribution (40%), manufacture (27%) and in connection with their professional activities (39%). The remaining one third of the stakeholders reports not being involved with restricted explosives precursors (23%) or using these substances for non-professional activities (11%).

The majority of the respondents that are involved with explosives precursors mostly deal with Nitric acid, Hydrogen peroxide and Ammonium nitrate.

Main findings

Context

The current system of controls and restrictions on the marketing and use of explosives precursors ensures security of the general public against the misuse of explosives precursors from a moderate/high extent.¹⁸³

Relevance

- Elements that pose security concerns to a high/very high extent are the Internet sales of explosives precursor substances,¹⁸⁴ to a moderate/high extent the existence of non-regulated, but potentially dangerous precursor substances freely available on the market,¹⁸⁵ and the awareness along the supply chain concerning the restrictions and controls required by the Regulation.¹⁸⁶

Effectiveness

¹⁸³ OPC feedback: 68% (n=47) of respondents answered “Moderate extent” or “high extent” to the question “In your view, to what extent does the current system of controls and restrictions on the marketing and use of explosives precursors ensure security of the general public against the misuse of explosives precursors?”.

¹⁸⁴ OPC feedback: 54% (n=36) answered “high extent” or “completely” to the question “To what extent do the following elements pose security concerns?: Internet sales of explosives precursor substances”.

¹⁸⁵ OPC feedback: 59% (n=39) answered “moderate extent” or “high extent” to the question “To what extent do the following elements pose security concerns?: Existence of non-regulated, but potentially dangerous precursor substances freely available on the market.”

¹⁸⁶ OPC feedback: 51% (n=37) answered “moderate extent” and “high extent” to the question “To what extent do the following elements pose security concerns?: Awareness along the supply chain concerning the restrictions and controls required by the Regulation”.

Overall, the current system of controls and restrictions on explosives precursors contributed to a moderate/high extent to raising awareness of the supply chain concerning risks related to the misuse of explosives precursors,¹⁸⁷ and to improving the traceability of sales and transactions concerning explosives precursors.¹⁸⁸ However, there is no consensus on the fact that the Regulation contributed to harmonising controls and penalties across Member States.

Overall, according to the majority of respondents (52%), the current system of controls and restrictions on the marketing and use of explosives precursors has ensured only to a low or moderate extent the security of the general public. Most of the respondents estimate that the current system has contributed to a moderate or high extent to improving traceability of sales and transactions concerning explosives precursors and raising awareness along the supply chain. However, respondents reported that, in their view, the Regulation did not substantially contribute to harmonising controls across Member States, considering significant differences in the implementation measures across the Member States (e.g. as regards labelling practices).

A minority of the respondents, between 18 and 45% depending on the substance in question, are of an opinion that the substances now regulated i.e. hydrogen peroxide, nitromethane, nitric acid, potassium chlorate, potassium perchlorate, sodium chlorate, sodium perchlorate cannot be effectively substituted with other non-restricted substances or concentrations. The perception of effectiveness of respondents is however conditioned by the level of awareness of existing alternatives.

Security concerns

Internet sales of explosives precursors raise concerns for 77% of respondents, mainly due to difficulties in identifying the buyer and detecting suspicious transactions. From the responses, it emerges that checks for the professional use of explosives precursors are done less frequently online than in physical shops (15% of the respondents report being requested to demonstrate professional purpose for their purchase online, while 24% of the respondents report this for physical shops).

The majority of the respondents (70%) report that the availability on the market of non-regulated but potentially dangerous explosives raises security concerns.

Limited awareness along the supply chain about restrictions and controls required by the Regulation raises concerns to a moderate or high extent for 56% of respondents. Not all

¹⁸⁷ OPC feedback: 71% (n=54) answered “moderate extent” or “high extent” to the question “Based on your experience, to what extent does the current system of controls and restrictions on explosives precursors contribute to the following results?: Raise awareness of the supply chain concerning risks related to the misuse of explosives precursors”.

¹⁸⁸ OPC feedback: 75% (n=53) answered “moderate extent” or “high extent” to the question “Based on your experience, to what extent does the current system of controls and restrictions on explosives precursors contribute to the following results?: Improve the traceability of sales and transactions concerning explosives precursors”.

economic operators appear to be aware of the requirements of the Regulation, and the complex and diverse nature of the supply chain makes it difficult for stakeholders to identify relevant actors to be targeted by awareness-raising activities.

A majority of the respondents (55%) consider that the capacity to distinguish professional users from members of the general public poses to a moderate or high extent a security concern.

Efficiency

Overall, the costs entailed by the Regulation are estimated by respondents as moderate. However a significant part of the respondents, up to 33%, find it difficult to estimate the costs entailed by the Regulation. A majority of the respondents report that activities related to monitoring, inspections, compliance and reporting (63%) as well as distributing or obtaining information on regulated substances (55%) implementation of licencing and registration (55%) generate costs to a moderate or high extent.

Moreover, some respondents highlighted that following the entry into force of the Regulation and the national implementation measures, some people had to look for alternative substances in order to continue carrying out their hobbies or other legal activities, reportedly entailing some additional costs. Even though the costs entailed by the Regulation are relatively low, there is consensus on the importance to adequately assess the impacts and proportionality of any future revisions of the EU legislative framework for the different categories of stakeholders concerned.

Future improvement

In order to improve the current system of restrictions and controls on explosive precursors, the following elements appear to be a priority for respondents:

- Clarification of rules applicable to internet sales and ways of enforcing them;
- Improvement of the transmission of information along the supply chain
- Clarification of the definition of suspicious transactions and related criteria to be considered for their identification;
- Harmonisation of implementation practices across Member States;
- Improvement of the awareness of relevant actors in the supply chain.

Overall, there is consensus that any changes to the current legislative framework should take into account the balance between risk mitigation and market related effects, while ensuring simplicity and enforceability of the system.

Results of the consultation activities – Impact Assessment

Survey carried out by the external contractor

- If the legal framework remains unchanged and no new EU initiative is adopted the administrative costs and the enforcement costs are expected to increase for economic operators ¹⁸⁹ whereas they would remain the same for NCAs/NCPs. ¹⁹⁰
- The policy measures that would be effective in strengthening restrictions to prevent and detect misuse of explosives precursors against public security are:
 - To impose a ban on access by members of the general public to restricted explosives precursors across the EU; ¹⁹¹
 - To increase cross-border exchange of information; ¹⁹²
- The policy measures that would be effective in enhancing awareness and the enforcement of the restrictions and reporting requirements are:
 - Ensuring that the Regulation is applied for online retailers; ¹⁹³
 - Training law enforcement, first responders and customs authorities in all Member States; ¹⁹⁴
 - Setting up inspection systems in all Member States; ¹⁹⁵
 - Improving the identification of regulated explosives precursors along the supply chain. ¹⁹⁶

¹⁸⁹ Survey feedback: Administrative costs: 56% (n=9), and Enforcement costs: 74% (n=14) of economic operators reported that costs are expected to increase.

¹⁹⁰ Survey feedback: Administrative costs: 56% (n=19), and Enforcement costs: 52% (n=17) of economic operators reported that costs are expected to remain the same.

¹⁹¹ Survey feedback: 52% (n=29) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures would be effective in strengthening restrictions to prevent and detect misuse of explosives precursors against public security?”.

¹⁹² Survey feedback: 79% (n=44) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures would be effective in strengthening restrictions to prevent and detect misuse of explosives precursors against public security?”.

¹⁹³ Survey feedback: 75% (n=43) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures would be effective in improving the awareness and enforcement of the restrictions and reporting requirements?”.

¹⁹⁴ Survey feedback: 64% (n=39) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures would be effective in improving the awareness and enforcement of the restrictions and reporting requirements?”.

¹⁹⁵ Survey feedback: 63% (n=35) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures would be effective in improving the awareness and enforcement of the restrictions and reporting requirements?”.

¹⁹⁶ Survey feedback: 52% (n=32) of representatives from economic operators and NCAs/NCPs answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy

- The following policy measures will increase the costs for some actors and more specifically:
 - Setting up inspection systems in all Member States for economic operators and NCA/NCP;¹⁹⁷
 - Requiring economic operators to register transactions involving professional users;¹⁹⁸
 - Improving the identification of regulated explosives precursors along the supply chain.¹⁹⁹

Online Workshops

- NCPs think that the expansion in the number of substances in Annex I and Annex II as well as the training of LEAs, first responders and customs authorities, and the introduction of a requirement for Member States to set up specialised inspection services will bring additional costs since they will probably fall under their responsibility.²⁰⁰ For Manufacturers/distributors the expansion of annexes I and II seems to be effective, but they stress the importance of keeping simple any possible changes²⁰¹ and for retailers the problem should be linked to products rather than substances.²⁰²
- Manufacturers/distributors would be fine with a faster procedure to restrict substances under Annex I but there is the need to be careful with the speed of changes.²⁰³
- For NCPs and NCAs it should be important to clarify the term of suspicious transaction and to encourage the reporting.²⁰⁴
- Online marketplaces represent a security threat for NCAs and manufacturers/distributors²⁰⁵
- Manufacturers/distributors would welcome the revocation of the registration regime.²⁰⁶

measures would be effective in improving the awareness and enforcement of the restrictions and reporting requirements?”.

¹⁹⁷ Survey feedback: 47% (n=17) of representatives from NCAs/NCPs and 45% (n=17) from economic operators answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures will increase the costs of your organisation/institution?”.

¹⁹⁸ Survey feedback: 59% (n=13) of representatives from economic operators answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures will increase the costs of your organisation/institution?”.

¹⁹⁹ Survey feedback: 46% (n=11) of representatives from economic operators answered ‘high extent’ or ‘very high extent’ to the survey question “To what extent do you think that the following policy measures will increase the costs of your organisation/institution?”.

²⁰⁰ Feedback from online workshops with NCPs.

²⁰¹ Feedback from online workshops with manufacturers/distributors.

²⁰² Feedback from online workshops with retailers.

²⁰³ Feedback from online workshops with manufacturers/distributors.

²⁰⁴ Feedback from online workshops with NCPs.

²⁰⁵ Feedback from online workshops with NCAs.

²⁰⁶ Feedback from online workshops with manufacturers/distributors.

- Retailers do not encourage labelling of products: the making explicit of the presence of an explosives precursor could have a two side effect for terrorists.²⁰⁷
- NCAs, retailers and manufacturers/distributors would appreciate the establishment of a SCP subgroup to regularly discuss evolving threats (in classified meetings), with a view to reacting promptly to new threats and one subgroup of inspection authorities and a task Europol and EU INTCEN to regularly report to the SCP. However, NCAs would appreciate the involvement of NCAs category in these subgroups and manufacturers/distributors would appreciate to be consulted.²⁰⁸
- NCPs, NCAs and manufacturers/distributors think that Policy Option 3 would be too radical and costly to be implemented.²⁰⁹
- NCPs wish more information exchange with economic operators²¹⁰ and NCAs support the introduction of a requirement from economic operators to inform the next link in the supply chain when a substance or mixture is subject to the Regulation, including for Annex II. However, it should be important to identify the responsible(s) who have to inform the next link in the supply chain for manufacturers/distributors²¹¹ and for retailers it should be important to identify all the products concerned.²¹²

Open Public Consultation

- There is no consensus on the impact of the application of a ban in all Member States for the acquisition, possession and use of restricted explosives precursors by members of the general public on:
 - the increase of the level of security in the Union against the misuse of explosives precursors by terrorists for respondents on behalf of a business/private company;
 - the increase of awareness and controls over transactions, disappearances and thefts of listed explosives precursors and on the improvement of traceability of sales and transactions;
 - Smoother functioning of the internal market for chemical substances.
- The application of a ban in all Member States for the acquisition, possession and use of restricted explosives precursors by members of the general public seems to have an impact on further harmonising rules concerning the making available, introduction, possession and use of explosives precursors for respondents on behalf of a business/private company.²¹³

²⁰⁷ Feedback from online workshops with retailers.

²⁰⁸ Feedback from online workshops with NCAs, retailers and manufacturers/distributors.

²⁰⁹ Feedback from online workshops with NCPs and NCAs.

²¹⁰ Feedback from online workshops with NCPs.

²¹¹ Feedback from online workshops with NCAs.

²¹² Feedback from online workshops with retailers.

²¹³ OPC feedback: 65% (n=21) respondents from a business/private company answered “agree” and “strongly agree” to the question “In your opinion, what would be the impact of the application of a ban in all Member States for the acquisition, possession and use of restricted explosives precursors by members of the general

- There is no consensus on the impact of introducing a requirement for economic operators to register transactions with professional users on:
 - the increase awareness and controls over transactions, disappearances and thefts of listed explosives precursors;
 - Improve traceability of sales and transactions.
- The introducing a requirement for economic operators to register transactions with professional users seems to have a low impact on the increase the level of security in the Union against the misuse of explosives precursors by terrorists²¹⁴ and on the smoother functioning of the internal market for chemical substances.²¹⁵
- There is no consensus on the impact of extending the obligation to report disappearances and thefts of explosives precursors to members of the general public on the increase of awareness and controls over transactions, disappearances and thefts of listed explosives precursors.
- Extending the obligation to report disappearances and thefts of explosives precursors to members of the general public seems to have a low impact on:
 - the increase of the level of security in the EU against the misuse of explosives precursors by terrorists;²¹⁶
 - Improved traceability of sales and transactions;²¹⁷
- Further harmonising rules concerning the making available, introduction, possession and use

From the consultation held in preparation of the impact assessment report, the vast majority of SCP and industry representatives from manufactures and distributors, supported policy option 2 as a preferred way forward for the revision of the current framework with complementary non-legislative measures from option 1. Stakeholders consulted through surveys, interviews and workshops did not express support for policy option 3, estimating measures in this option as generally disproportionately restrictive and burdensome for economic operators and national authorities.

public?: Further harmonising rules concerning the making available, introduction, possession and use of explosives precursors”.

²¹⁴ OPC feedback: 49% (n=36) of respondents answered “strongly disagree” or “disagree” to the question “What would be the impact of introducing a requirement for economic operators to register transactions with professional users?: Increase the level of security in the Union against the misuse of explosives precursors by terrorists”.

²¹⁵ OPC feedback: 68% (n=50) respondents answered “strongly disagree” or “disagree” to the question “What would be the impact of introducing a requirement for economic operators to register transactions with professional users?: Smoother functioning of the internal market for chemical substances”.

²¹⁶ OPC feedback: 49% (n=34) respondents answered “strongly disagree” or “disagree” to the question “What would be the impact of extending the obligation to report disappearances and thefts of explosives precursors to members of the general public? Increase the level of security in the Union against the misuse of explosives precursors by terrorists”.

²¹⁷ OPC feedback: 56% (n=38) respondents answered “strongly disagree” or “disagree” to the question “What would be the impact of extending the obligation to report disappearances and thefts of explosives precursors to members of the general public?: Improve traceability of sales and transactions.

ANNEX 3: EVALUATION OF REGULATION EU 98/2013 ON THE MARKETING AND USE OF EXPLOSIVES PRECURSORS

INTRODUCTION

Purpose of the evaluation

This Annex to the Impact Assessment accompanying the Commission proposal for a revised Regulation on the marketing and use of explosives precursors presents the results of the evaluation of Regulation EU 98/2013 on the marketing and use of explosives precursors (hereafter, the Regulation).

The purpose of this evaluation is to:

- 1) Evaluate the effectiveness, efficiency, relevance, coherence and EU added value of the Regulation and the situation created by the existing EU and national frameworks;
- 2) Make recommendations on the need for possible additional measures; and
- 3) Contribute to an assessment of the impact of possible new and strengthened measures.

In line with the Commission Work Programme 2018, which envisages a possible revision of the Regulation, DG HOME, commissioned a study on combating the threat posed by explosives precursors. This study aimed to analyse the functioning of Regulation 98/2013, as well as to identify gaps and issues, and to assess the impact of possible policy changes. The study supported the Commission in examining ways to strengthen protection in Europe against the illicit use of explosives precursors, by improving the effectiveness and efficiency of the EU restrictions and controls on explosives precursor substances and ensuring the appropriate reporting of suspicious transactions through the supply chain.

Scope of the evaluation

The evaluation takes into account implementing measures at national level of the main provisions of the Regulation as well as trends, challenges and recent cases related to misuse of explosives precursors.

This report covers activities and data from the date of the entry into force of the Regulation, September 2014, to February 2018. In line with the geographical scope of the Regulation, the evaluation targets the application of the Regulation in the EEA members, i.e. the EU 28 Member States, Iceland, Liechtenstein, and Norway.

The Evaluation addresses the five mandatory criteria set out in the Commission's Better Regulations Guidelines: (i) Relevance; (ii) Effectiveness; (iii) Efficiency; (iv) Coherence; and (v) EU added value.

BACKGROUND TO THE INITIATIVE

Description of the initiative and its objectives

Regulation EU 98/2013 and its objectives

Explosives precursors are chemical substances that can be misused to manufacture HMEs. Recognising the threat that these substances pose to public security, in the 2008 action plan on enhancing the security of explosives, the Commission made it a priority to examine the possibility of regulating substances of concern. The SCP, a Commission expert group that brings together Member States and stakeholders from the chemicals industry and retail, has been facilitating efforts at EU level since 2008.

The Regulation aims to address some key issues related to the availability, introduction possession and use of explosives precursors in order to ensure a higher level of protection for the general public against the threat posed by HMEs while enabling the free movement of explosive precursor substances within the internal market. Notably, the Regulation establishes common rules and restrictions for the marketing and use of substances that pose a security concern, laid down in Annexes, with the strategic objectives of:

- Limiting the availability of explosives precursors to the general public across the EU;
- Improving detection of potential threat and misuse of explosives precursors throughout the EU;
- Improving the free movement of explosives precursors within the EU.

To meet these strategic goals, the Regulation pursues the following operational objectives:

- Ensuring controls over suspicious transactions, disappearances and thefts through appropriate reporting obligations;
- Raising awareness along the supply chain of relevant restrictions and obligations as regards the marketing and use of restricted explosives precursors;
- Harmonising rules that are likely to cause barriers to trade and distortion of competition.

To meet the objectives of limiting the availability of explosives precursors to the general public, the Regulation introduces three possible control regimes for the marketing and use of restricted substances:

- 1) Ban for the general public above the limit values of substances set in Annex I;
- 2) Licencing regime, allowing access for members of the general public to restricted explosives precursors, subject to obtaining a licence issued by a designated competent authority;
- 3) Registration regime, allowing access for members of the general public to a limited number of restricted explosives precursors²¹⁸ below the limit value set in the Regulation, subject to the registration of each transaction by the economic operator.

²¹⁸ As per art. 4 of the Regulation, the registration regime may apply only to the following three substances below the respective limit values: hydrogen peroxide (between 12% and 35%); nitromethane (between 30% and 40%) and nitric acid (between 3% and 10%).

The Regulation provides a safeguard clause, allowing Member States to adopt further restrictions on substances than those set out in the Regulation in order to achieve higher levels of protection (art.13). Member States are requested to establish effective, proportionate and dissuasive penalties for infringement of the applicable regimes and Regulation's provisions (art.11). As regards economic operators, the Regulation imposes an obligation to report to a designated national contact point any suspicious transaction as well as significant disappearances and thefts involving explosives precursors (art. 9) and to ensure appropriate labelling of restricted substances (art. 5).

The Regulation entered into force on 1 March 2013 and became applicable on 2 September 2014. It was also incorporated into the EEA agreement by Joint Committee Decision²¹⁹ on 12 December 2014, entering into force also in Iceland, Liechtenstein and Norway.

The Regulation, as adopted, differs to an important extent from the Commission's 2010 proposal.²²⁰ Most importantly, the 2010 proposal foresaw a single type of control regime across the entire Union, consisting of licences and requiring economic operators to keep records of the transactions. The 2010 proposal foresaw restrictions on 'imports' rather than 'introduction,' as well as delegated powers to amend both annexes, not only Annex II and the limit values in Annex I. In addition, the 2010 proposal required economic operators to report suspicious transactions of any non-scheduled substances and transfer the relevant ammonium nitrate provisions from REACH, both of which were dropped and set to be re-examined at a later date. Finally, the adopted Regulation included an article on labelling and a safeguard clause, neither of which were foreseen in the Commission's proposal.

The Regulation was amended in 2016 with the addition of aluminium powder, magnesium powder and magnesium nitrate hexahydrate to Annex II.²²¹ These additions were proposed to the SCP by Member States and were consulted with all relevant stakeholders, in particular the chemical industry and retail sector, to ensure they would not impose disproportionate burdens on economic operators or consumers.

Policy context

The 2008 EU action plan on enhancing the security of explosives²²² called on Member States and the Commission to improve the regulation of explosives precursors on the market and established the SCP with a mandate to identify threat substances and to consider options for restricting and controlling them.

In 2010, judging that the general public had relatively easy access to these chemicals even in concentrations sufficient to produce a powerful explosive device, and that the scale of the problem was amplified by the fact that the chemical market in the EU was large and diversified, with multiple end-users, the Commission presented a proposal for a Regulation.

Since the adoption of the Regulation in 2013, the SCP has met regularly to facilitate and monitor its implementation, providing a platform for Member States and representatives of

²¹⁹ Decision of the EEA Joint Committee No 269/2014 of 12 December 2014 amending Annex II (Technical regulations, standards, testing and certification) to the EEA agreement [2015/2136].

²²⁰ 2010/0246 (COD).

²²¹ Commission delegated regulations 2017/214, 2017/215, and 2017/216.

²²² Council document Doc. 8109/08.

the economic operators in the supply chain to exchange information and views on the Regulation and its practical implementation.

The 2015 European Agenda on Security, which prioritises fighting terrorism, reiterated the importance of taking action at EU level to reduce access to explosives precursors. In the Action Plan on firearms and explosives²²³, which implements the European Agenda on Security, the Commission announced that it would strengthen efforts to promote harmonised measures, further engage the supply chain, and accelerate work towards a revision of the Regulation.

In February 2017, the Commission adopted a report on the application of the Regulation.²²⁴ The report outlines the main challenges faced by Member States and the supply chain and examines the feasibility and desirability of strengthening the system in the future. It concludes that the entry into force of the Regulation has helped reduce access for the general public to dangerous explosive precursors, but that additional changes to the Regulation are necessary to increase the capacity of all those involved in implementing and enforcing the restrictions and controls. With this in mind, the Commission has committed to carefully evaluate the Regulation and assess the impact of possible further measures. The comprehensive assessment of EU Security Policy, carried out by the Commission in 2017²²⁵, highlighted the added value of the Regulation to reducing the threat posed by explosives precursors in Europe and reiterated some of the main limitations of the legislation. Limitations are related to awareness in the supply chain and on sharing information across borders, and the multiplicity of different regimes across the EU, which creates challenges for the supply chain actors conducting business across the EU.

In order to enable a more efficient application of the Regulation, the Commission adopted, in October 2017, Recommendations setting out immediate steps to prevent misuse of explosives precursors²²⁶. The Recommendations called for an improved enforcement of the restrictions and controls laid down in the Regulation and further cooperation and engagement with the supply chain. The Recommendation also tasked Member States to assess the effectiveness of their national control measures for the marketing and use of explosives precursors and report to the Commission. In the Council conclusions²²⁷ of 7 December 2017, also the Council of the European Union has acknowledged the need to introduce further steps to prevent misuse of explosives precursors.

Despite the restrictions and controls introduced under the Regulation and measures for improving its implementation and for strengthening cooperation across sectors and borders, regulated explosives precursors continue to be accessed by individuals and groups that pose a threat to public security. This is evidenced notably by recent attacks involving HMEs which left at least 195 dead and over 1000 injured in the period between November 2015 and May

²²³ COM(2015) 624 final.

²²⁴ COM(2017) 103 final.

²²⁵ SWD(2017) 278 final.

²²⁶ C(2017) 6950 final. COMMISSION RECOMMENDATION of 18.10.2017 on immediate steps to prevent misuse of explosives precursors.

²²⁷ Council conclusions on strengthening the European Union response to CBRN related risks, reducing access to explosive precursors and protecting public spaces.

2017,²²⁸ by a number of failed attacks,²²⁹ and by many additional incidents where HMEs and related materials have been found and seized by the police. The misuse of regulated explosives precursors for illicit manufacturing of HMEs in Europe raises the question of whether the Regulation is effective in limiting availability to the general public of explosives precursor substances and ensuring the appropriate reporting of suspicious transactions through the supply chain. The Commission has been tasked with evaluating the Regulation and assessing the need for further measures to strengthen the framework.

Baseline

Regulation EU 98/2013 put in place an EU legal framework for the marketing and use of explosives precursors. The Regulation has created a legal basis for EU Member States to raise awareness among economic operators in the supply chain about the dangerous properties of some of their products, to set up licensing or registration regimes through which restricted substances can be made available to the members of the general public, to monitor compliance by economic operators with the restrictions and controls introduced, to inspect the registries of transactions kept by economic operators, to implement penalties on infringements of the Regulation, and to gather information on suspicious transactions, disappearances and thefts.

Prior to the adoption of the Regulation the situation was characterised by wide availability and easy access to explosives precursors, including those in high concentrations, by the general public and a lack of an EU level playing field. Some legislative and non-legislative measures on the security of chemicals have been adopted at national, EU and international level prior to the adoption of the Regulation²³⁰. However, these measures were mainly focused on the security of explosives or chemicals used for weapons or drugs.

Only few Member States had measures in place with regard specifically to explosives precursors (legislative measures in 3 Member States and non-legislative measures in 6 Member States) before the adoption of the Regulation. In addition, Member States' approaches to explosives precursors and their security varied significantly²³¹ and many of the measures in place prior to the adoption of the Regulation addressed only a limited number of substances. While some Member States have deployed efforts introducing restrictions and controls to access of the general public to specific explosives precursor substances, other Member States focused on measures for increasing the security of precursors within the wider supply chain, with relation to storage, transport etc.

²²⁸ Manchester arena (United Kingdom, May 2017), Ansbach music festival (Germany, July 2016), Brussels airport and metro (Belgium, March 2016), and Paris attacks (France, November 2015).

²²⁹ Brussels Central Station (Belgium, June 2017), Alcanar explosion (Spain, August 2017, where two died in an accidental explosion during the preparation of HMEs), and Parsons Green tube station (United Kingdom, September 2017).

²³⁰ Examples include: UN Convention on the Marking of Plastic Explosives for the Purpose of Identification", adopted on 1 March 1999; The United Nations Single Convention on Narcotic Drugs", 1961; Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction".

²³¹ GHK, Rand Europe and Comstratos, 2010. Preparatory Study to Inform an Impact Assessment of Potential Legislative and Non-legislative Restrictions on Chemical Precursors to Explosives.

For the purpose of this evaluation, the situation before the adoption of the Regulation is therefore considered as baseline.

The baseline is set on the basis of the key issues and problems identified by the 2010 Impact Assessment:²³²

- **Wide availability and easy access to explosives precursors by the general public:** the general public (in particular professional or other legitimate end users) could easily purchase (also on the internet) different types of explosives precursors available on the market;
- **High ‘potency’ of explosives precursors:** the concentration levels of explosives precursors available to the general public and to legitimate end-users were in many cases sufficient to produce an explosive even with a small amount of the chemical concerned. Many explosives precursors for household use (especially hydrogen peroxide, liquid nitromethane, and most strong acids) were available to the general public at high concentration levels, even when they could have been used also at a lower concentration level while remaining equally effective for the same household purposes;
- **Insufficient security and awareness of the supply chain:** actors involved in the supply chain for explosives precursors displayed a lack of awareness about the security risks related to terrorists or other criminals trying to obtain explosives precursors, with cases of precursors sold in quantities that should have raised suspicion. The lack of an obligation to report on suspicious transactions left room for the retailers to carry out opportunistic sales of large quantities of explosives precursors without worrying of committing any offence.
- **No EU level playing field:** despite the existence of several legislative and non-legislative measures at international, EU and national level, security risks associated with explosives precursors were not adequately addressed throughout the entire EU. Terrorists could indeed obtain precursors in Member States with less severe rules and possibly misuse them in other Member States as well. Moreover, the adoption by Member States of different regulatory regimes across EU creates distortions in the internal market having a negative impact on the chemical industry, skewing EU playing field.

In 2010, there was evidence of few Member States²³³ having security measures in place to address explosives precursors, and they varied in nature, coverage and purpose. The main differences concerned:²³⁴

- *The nature or type of instruments:* while some countries mainly relied on “soft” measures such as voluntary agreements, industry-backed guidelines and codes of conduct (e.g. the Netherlands, the UK), others (e.g. Germany, Denmark, Ireland) had a regulatory approach. Nevertheless, even in countries with a structured regulatory framework, existing legislative measures were often complemented by voluntary

²³² *Ibid.*

²³³ Denmark, France, Germany, Ireland, the Netherlands, Poland, Portugal, Spain, Sweden and the UK.

²³⁴ GHK, Rand Europe and Comstratos (2010), *op.cit.*

measures. Besides legislative measures, several types of measures has been identified, examples are: a) Training measures for staff, law enforcement personnel and first responders²³⁵ b) Awareness-raising campaigns targeting supply chain actors and notably retailers,²³⁶ c) National plans, strategies and other measures to map explosives precursors of interest,²³⁷ and d) Research into explosives precursors carried out by Member States (e.g. Denmark, France and Sweden).

- *The coverage of explosives precursors:* while some countries adopted measures covering a wide array of explosives precursors, other Member States had developed measures focusing only on a specific group of substances. For example, the Netherlands, Sweden and the UK implemented measures to cover a wide range of explosives precursors that included nitrates/nitrogenous fertilizers, hydrogen peroxide and acetone, nitro-methane and hexamine, strong acids, and chlorates and perchlorates. Poland on the other hand, had regulated only the category of hydrogen peroxide and acetone, Ireland only nitrates/nitrogenous fertilisers and France the nitro-methane and hexamine category.
- *The purpose of measures:* while the measures in some Member States specifically aimed at restricting or controlling the access of the general public to the relevant explosives precursors, other Member States focused on increasing their security throughout the wider supply chain (e.g. handling, storage, transport).

METHOD

This evaluation builds on an independent study commissioned by DG HOME to an external contractor on the implementation of the EU Regulation of explosives precursors in view of identifying possible options for a future EU initiative.

The evaluation made use of policy and legal documents at EU and national level, position papers, studies, reports, statistical data and other pieces of written evidence provided through desk research, as well as field research including surveys and interviews. It also builds on a series of consultations, including an open public consultation carried out between 6 December 2017 and 14 February 2018 and targeted consultations of the SCP and other stakeholders from the chemical supply chain. National assessments of the effectiveness of the Regulation, carried out following the Commission Recommendations from 18 October 2017, have also contributed to the evaluation.

All Member States and a wide representation of industry have provided feedback and input through the stakeholder consultations. Member States' assessments on the effectiveness of their national regimes for marketing and use of explosives precursors, carried out in line with the Commission Recommendations on immediate steps to prevent misuse of explosives precursors, have also contributed to this evaluation.

²³⁵ These included the UK "Know your chemical" booklet, a similar booklet launched in 2008 in Sweden and a training programme targeting police officers in Germany.

²³⁶ Example: the UK's Self-storage initiative" and the UK Code of Conduct on Chemical Trade Controls.

²³⁷ Example: the Danish Anti-Terrorism Action Plan adopted in 2005 and Dutch "Handbook on Precursors for "Home-made Explosives".

The analysis encountered the following difficulties:

- **Data and information on the misuse of explosives precursors are limited and often not publicly accessible.** Information on chemical substances used as explosives precursors in terrorist attacks is not possible without referring to classified information. Moreover, open source intelligence is often fragmented in a number of heterogeneous sources of information and, for most recent cases, not available or only partial. This limitation affected the quantification of the problem related to the misuse of explosives precursors for criminal purposes and the analysis of the relevance of the Regulation to current security needs.
- **The assessment of the results of the Regulation is limited by some methodological considerations.** Firstly, limited time has passed since the implementation of the Regulation in 2014, which means it may be too soon to adequately evaluate its impact. This is even more relevant considering that some Member States formally adopted implementing measures only recently. Secondly, accurate data and statistics are rarely available, which makes it difficult to quantify the impact of the Regulation (e.g. number of granted licences, number of suspicious transactions). Thirdly, the Regulation is only a part of the fight against the misuse of explosives precursors and more in general terrorism; there are naturally many other initiatives conducted at national that aim to tackle the problem. The assessment of the impact is performed mainly on a qualitative base, looking for ‘contributions’ made by the Regulation to the overall results achieved, and where the Regulation is being of value compared with what could have been achieved by Member States only.
- **Information on costs related to the implementation of the Regulation are very limited** – the assessment of regulatory costs for economic operators and Public Authorities (PAs) strongly relies on the qualitative feedback provided by relevant stakeholders during survey and interviews. Even if a precise quantification and monetisation of them is not possible, stakeholder feedbacks allowed a prioritisation of the most burdensome legal requirements and the identification of potential measures for cost saving and efficiency gains.
- **Identification of the number of the economic operators affected by the regulation was not possible based on data available** - The chemicals affected by the Regulation are known to have a wide range of uses and are therefore sold by a wide range of businesses. The market analysis supporting this evaluation was able to identify the main uses. However, the number of businesses that sell Annex I and II chemicals need to be estimated using EUROSTAT data on the number and size of EU Businesses, sorted by Statistical classification of economic activities in the European Community (NACE) codes. The NACE codes encompass a number of different types of business and different assumptions need to be done regarding what proportion of each NACE code would sell Annex I and II chemicals for each Member State.
- **Limited responsiveness of economic operators.** Despite the long list of economic operators targeted through the web-based survey (273), only 24 provided an answer and among them only few are retailers which, as shown by the following analysis are among the stakeholders that are most concerned by the Regulation. Despite several rounds of consultations in the framework of the preparatory study, the rate of response

remained low. The information provided can be, nevertheless considered somewhat representative given that the main EU business associations provided a feedback.²³⁸

IMPLEMENTATION STATE OF PLAY

Security and market context

The availability of explosive precursors has facilitated the use of HMEs. The threat posed by these HMEs in the EU has always been high. Prior to the entry into force of the Regulation in 2013, large quantities of explosives precursors, currently restricted by the Regulation, were found during investigations of thwarted terrorist attacks²³⁹. Despite the restrictions and controls of the Regulation, **the overall number of terrorist attacks involving explosives precursors, as well as the number of fatalities in terror attacks using explosives precursors has significantly increased since 2013.**

Explosives were used in about 40% of terrorist attacks in 2015 and 2016²⁴⁰. **HMEs pose now a much higher threat than other types of explosives**, such as military and commercial explosives and pyrotechnics. The latter, which fall outside the scope of the Regulation, were more popular in the past²⁴¹.

Currently, perpetrators prefer making TATP, which was used in the vast majority of the terrorist attacks in the EU in the last years, including those in Paris in 2015, Brussels in 2016 and Manchester, Stockholm, Cambrils and Parsons Green in 2017. Another often made explosive is HMTD, which has been used in the 2005 London tube bombings and several terrorist attacks in the United States, including those in 2016 in New York and New Jersey. The increasing availability of bomb making manuals on the Internet and the fact that the substances themselves are increasingly available on the Internet has exacerbated the misuse of explosives precursors in the EU and increased the threat also of substances that have been used for the manufacture of HME outside the EU. Both TATP and HMTD are created from hydrogen peroxide, a substance to which the Regulation restricts access to members of the general public. These HMEs also require acetone or hexamine, subject to reporting suspicious transactions under the Regulation.

According to Europol, the **threat posed by HMEs will continue to be high, with HME remaining the popular choice of explosive**. The EU may see that a broader range of HMEs will again be used, such as those based on ammonium nitrate, as used in Oslo in 2011 and Oklahoma in 1995, or those based on chlorates. Currently TATP however remains the most popular HME.²⁴²

A shift in the user profile of HME has occurred in the last years, from separatists towards religiously inspired terrorists. A forecast regarding terrorism is that many foreign fighters may

²³⁸ Among survey respondents there are six European Business Associations. Even if not all of them have members from all Member States, they have a wide coverage of National Business Associations. Considering them jointly, all Member States are represented by the answers provided to the survey.

²³⁹ EU Terrorism Situation and Trend TE-SAT Report 2013, Europol.

²⁴⁰ TE-SAT Report 2017.

²⁴¹ ECTC Threat assessment, Europol 2018.

²⁴² *Ibid.*

return home with “high tech” weapons knowledge learned on the battlefield, including on explosives. As a result of this injection of skills and knowledge to existing networks, the use of explosives is likely to increase further.²⁴³

Europol warns that the focus of terrorist on HMEs, the developed capabilities to efficiently and safely manufacture large amounts of TATP is alarming in combination with the circumstance that they are still able to acquire significant amounts of explosives precursors²⁴⁴.

In addition, evidence of some growing concern about transport and storage of explosives precursors; incidents of theft of explosives from storage facilities are highlighted in several sources, and storage of some explosives precursors, for example ammonium nitrate, is reported not to be secure enough at the end-user level.

As stated in the 2017 report on the application of the Regulation, the amount of explosives precursors has decreased, partly because many economic operators have turned towards alternative substances²⁴⁵. In addition, it emerged from the same report that the supply chain has not been subject to significant economic losses, because of this substitution.

Overall, the trade and production trends for certain substances suggest that the financial and economic crisis have had an effect of the price per unit, exports and imports throughout the EU, such was the case for Ammonium Nitrate, Calcium Nitrate, Acetone, and Nitromethane.

In general, the analysis of restricted substances did not reveal any strong aligned patterns that may suggest that the production or trade trends were affected downward by this requirement. In fact, a generally positive export trend was recorded for all substances, and, with the exception of Nitromethane, the value of sold production has also increased for all substances (Hydrogen Peroxide being the highest, accounting for a 24% increase during the observed period). Regarding Nitromethane, this has been classified by the IARC as a possible carcinogenic substance to humans, and its drop in sold production value might suggest manufacturers are moving to alternatives.

Regarding the substances in Annex II, those include mostly fertilisers, which are found to be used in professional and non-professional circumstances, with the exception of Hexamine and Acetone, mainly used in the plastic industry. Trends for these substances highlight both increases and decreases, with Acetone and Ammonium Nitrate sold production decreasing by 31% and 55% respectively, over the course of the period between 2008 and 2016.

The preparatory study showed virtually no availability of restricted substances among the large online retailers analysed. Those substances remain, however, available for online purchase in lower concentration than those set in the Regulation, with Hydrogen Peroxide and Nitric Acid being the two most available substances across all markets. Conversely, the substances of Annex II are more widely available, as they are not subject to a ban. Nonetheless, these results should be taken with caution, as the number of online retailers analysed in the study cannot be considered statistically representative.

²⁴³ Jane's, European terrorism forecast: Trends in Islamist militancy in 2018.

²⁴⁴ ECTC Threat assessment, Europol 2018.

²⁴⁵ European Commission, Report from the Commission to the European Parliament and the Council on the application of, and delegation of power under, Regulation (EU) 98/2013 of the European Parliament and of the Council on the marketing and use of explosives precursors, *Op. Cit.*

Compliance and implementation measures

As of March 2018, all Member States are in compliance²⁴⁶ with the requirements of the Regulation to set up NCPs for reporting suspicious transactions (Article 9(2)) and to lay down rules on penalties (Article 11). Although penalties for infringements of the Regulation have been introduced in all Member States, their type and level of severity varies significantly.

The Regulation is EEA-relevant and therefore also applicable to Iceland, Liechtenstein and Norway. The EFTA Surveillance Authority is competent for monitoring the application of the Regulation in those countries. Whereas Norway and Liechtenstein are in compliance with the Regulation, the EFTA Court held in June 2017 that Iceland had failed to take the measures necessary to make the Regulation part of its internal legal order²⁴⁷.

Finally, Switzerland is not bound by the provisions of the Regulation, but has nevertheless already designated a national contact point and has started public consultations for the adoption of national measures controlling and restricting explosives precursors.

National control regimes for the marketing and use of explosives precursors

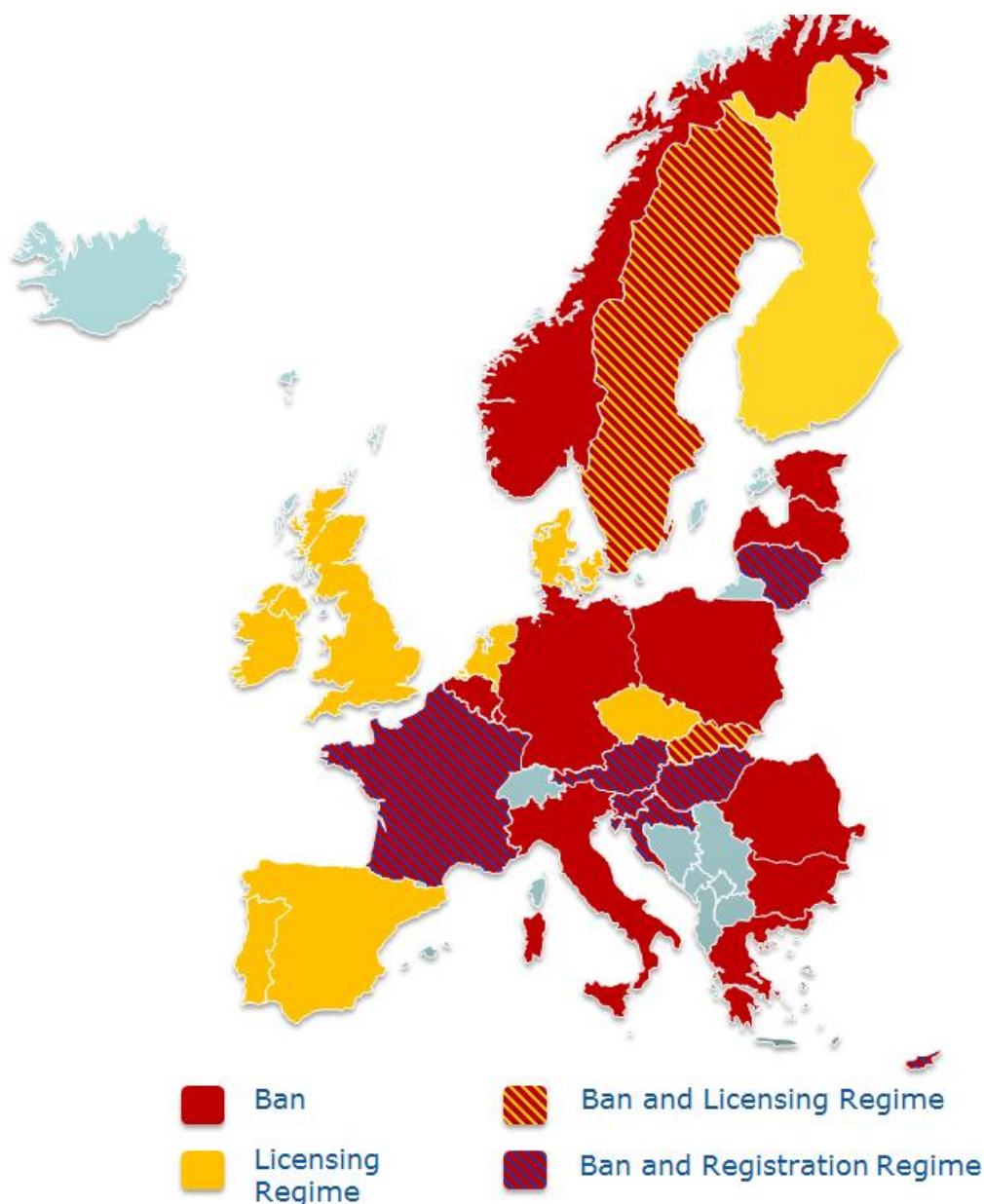
Under Article 4(1), the Regulation bans the making available, introduction, possession and use of restricted explosives precursors (listed in Annex I of the Regulation) to members of the general public. Member States can nevertheless establish and maintain licensing and/or registration regimes through which the restricted explosives precursors can be made available, in a controlled way, to members of the general public (Article 4(2) and (3)).

The application of the Regulation to date shows that national control regimes for the marketing and use of restricted explosives precursors vary significantly.

As of February 2018, 20 Member States have established bans for members of the general public to different restricted explosives precursors. Out of those, **12 Member States apply a ban to all restricted substances** under the Regulation and **8 Member States apply a combination of regimes** of a ban and registration (5), a ban and licencing (2) or a ban and registration and licencing (1). Another **8 Member States have put in place a licencing regime for all restricted substances**.

²⁴⁶ An infringement case remains open for Romania but the Commission will proceed to close it as soon as the law that was adopted by Parliament in February 2018 is promulgated.

²⁴⁷ Judgement on case E-18/16 - EFTA Surveillance authority v Iceland from 7 June 2017.



Overview of the regimes applied to restricted explosives precursors

Among those Member States that maintain a **licensing regime**, there is significant variation in the number of applications, the processes for requesting licences, the criteria on which they are granted or refused, and the length and type of validity of the licence. Some Member States take the view that requests for a licence should be granted unless there is a stated reason not to, while others apply the opposite approach, refusing licences unless there is a specific reason to grant them. This could explain that the percentage of licences granted and denied in Member States differs greatly. From the information shared by the Member States with the Commission, the percentage of licences granted in comparison to the number of applications ranges from 86% to 1%. The timeframe for issuing a decision on a licence also varies significantly across the Member States, ranging from 28 days to three months. Most Member States require applicants to pay a fee to cover the cost of processing the application (ranging from 12 to 45 euros), in line with Article 7(3) of the Regulation. In some Member States, the

licensing request is free of charge. The duration of validity of licences varies across the EU, but does not exceed 3 years. Most Member States issue licences for multiple transactions over a period of time, but some can issue licences also for single transactions.

To date, 6 Member States are applying a registration regime for the three substances listed in the Regulation. In most Member States applying a registration regime, there is no system in place for systematic control by public authorities of registered transactions, and inspections are reportedly being carried out sporadically.

National measures going beyond the Regulation

Some Member States do, whenever possible, **propose alternative substances or concentration levels** which can be used for legitimate purposes. The experiences reported by Member States suggest that alternatives exist for many, if not most, known legitimate uses. Studies show that some economic operators chose alternative substances to explosives precursors in their business and in cases, discontinue marketing products that contain restricted substances.²⁴⁸

Some Member States have gone beyond the minimum requirements determined in the Regulation and adopted stricter measures, including a requirement for **economic operators to register with the competent authorities** and to periodically declare all transactions, including imports, extend the scope of the Regulation to cover professional users, determine conditions for storage, foresee the exchange of relevant cross-border information with other Member States, or establish a role for customs authorities.

In addition, some Member States apply restrictions and **controls to non-listed explosives precursors**, or tighter restrictions to substances that are listed in line with Article 13 of the Regulation. As of February 2018, 24 Member States apply restrictions only to the substances listed in Annex I of the Regulation and another 4 Member States as well as Norway apply restrictions to non-scheduled substances. In all current cases, Member States had the restrictions and controls in place prior to the adoption of the Regulation.

Awareness raising regarding the regulation of explosives precursors in the EU

Not all Member States have taken measures to increase the awareness among the supply chain of the obligations deriving from Regulation 98/2013. Even though many Member States have reportedly conducted awareness-raising campaigns targeted at economic operators involved in the supply chain of the listed explosives precursors, the frequency and scope of such campaigns differ significantly among them. Only some Member States actively engage with online suppliers and marketplaces as well as with umbrella organisations of professionals and trade unions in order to maximise the outreach to concerned users. Further national measures to raise awareness include transmission of the Commission Guidelines through national websites or competent authorities, development of information materials at national level including guidelines, leaflets and video materials, roll-out of targeted trainings and seminars for economic operators. Market surveillance and inspection activities have also reportedly

²⁴⁸ Ernst & Young, Rand Europe, (2018) Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative.

contributed to raising awareness along the supply chain about the applicable national regime and the provisions of the Regulation.

EU supporting measures

The Commission has supported national efforts for the implementation of the Regulation, in close cooperation with the SCP, notably with the adoption and regular review of Guidelines and the adoption of three delegated acts, which added threat substances to Annex II.

Through the SCP, the Commission has also facilitated cross-border exchange of information on reports of suspicious transactions, disappearances and thefts, and the granting and refusal of licences, and has supported awareness-raising efforts by the chemical industry and retail sector. The Commission has also funded projects to increase the awareness of companies selling chemical products of security risks. Specifically, the Security of Sales of High Risk Chemicals project developed guidance materials for retailers, both in physical locations and on the internet, and for competent and law enforcement authorities.

Overall effect of the Regulation

The entry into force of Regulation (EU) 98/2013 has been a key factor to reducing access to dangerous explosive precursors which can be misused to manufacture HMEs and to preventing terrorist attacks in Europe.

As evidenced in the Commission 2017 report on the application of the Regulation, and in line with the results of consultations carried out with the SCP, and relevant stakeholders, and of a study carried out by independent expert consortium, it emerges that:

The amount of explosives precursors available on the market has decreased^{249 250}. This is partly due to the fact that many economic operators are applying the restrictions laid down in the Regulation. In addition, some manufacturers have stopped producing restricted explosives precursors and some retailers have stopped selling these substances even in Member States where no ban is applied. The supply chain has not reported any significant disturbances or economic losses as a result of this. Also, in some Member States that maintain licensing regimes, authorities have reported that the number of licence applications is currently significantly lower than it was during the first year of application of the Regulation. This suggests that members of the general public have successfully adopted alternative (non-sensitive) substances for continuing with their legitimate non-professional activities.

The detection of potential threat and misuse of available explosives precursors has increased. Member States have reported an increase in the number of reported suspicious transactions, disappearances and thefts, in part due to greater awareness among economic operators who handle explosives precursors. In addition, the competent authorities in Member States that maintain licensing regimes have a better understanding of which members of the

²⁴⁹ National assessment of the effectiveness of the Regulation: 70% (n=12) of the NCAs that provided reports to the Commission on the effectiveness of the Regulation indicate that the availability of explosives precursors to members of the general public has tangibly decreased following the entry into force of the Regulation..

²⁵⁰ Survey feedback: 94% (n=65) of the stakeholders consulted within the preparatory study are of an opinion that the regulation has contributed to some extent to limiting the availability of explosives precursors to the general public.

general public are in possession of restricted substances and the purpose they intend to use them for.

Finally, information exchange between Member States has improved in the last years, although the Regulation does not set obligations on cross-border information sharing. Specifically, cross-border exchange of information on reports of suspicious transactions, disappearances and thefts, and licences has been facilitated through the SCP. In addition, some Member States have, on an ad hoc basis, exchanged information on reports and refused licences.

The free movement of explosives precursors has somewhat improved within the EU following the entry into force of the Regulation. The harmonisation of rules has made compliance easier for business operating throughout the EU and has also diminished the possibility that companies take advantage by locating themselves in Member States where the level of restrictions and controls is more lenient, thereby achieving an unfair advantage and distorting competition. Nevertheless, the positive effect of the Regulation on the internal market remains limited, as economic operators continue to face challenges.

Key Observations

- ⇒ **The amount of explosives precursors available on the market has decreased further to the entry into force of the Regulation**
- ⇒ **The detection of potential threat and misuse of available explosives precursors has increased after the entry into force of the Regulation**
- ⇒ **The free movement of explosives precursors has improved within the EU**

Key challenges arising from the application of the Regulation

The study carried out to support this evaluation, as well as consultations held with the SCP, competent authorities and economic operators suggest that despite the overall positive effect of the Regulation for reducing the threat from explosives precursors in Europe, a number of challenges have nevertheless arisen from its application.

Recent attacks and incidents involving HMEs in Europe provide evidence of **the continuous misuse of explosives precursors (see 4.1)**.

Control regimes for explosives precursors across the EU

The Regulation only provides for a very moderate level of harmonisation of rules has made compliance easier for business operating throughout the EU. Having different control regimes in place across Member States have created certain **difficulties for compliance of economic operators** that operate in more than one Member State. Economic operators that conduct business throughout the EU also face the challenge of having to adapt to the specific nature of

the different regimes in each Member State. The Regulation allows Member State authorities to define key aspects of its application in their territory. Consequently, economic operators must be aware of the type of regime that applies in the specific Member State the product is destined for, and must register the sale, verify a licence or ban the sale, accordingly. Some companies have robust due diligence internal procedures which facilitate compliance with complex regulatory frameworks. However, for companies without such procedures, often smaller companies, this is a time-consuming process.

In addition, the moderate level of harmonisation of rules, in particular in relation to registration regimes makes companies benefit from locating themselves or being located in Member States where the level of restrictions and controls is more lenient, thereby achieving an unfair advantage and distorting competition.

Identification of legitimate users at the point of sale

Another recurrent issue, notably for the retail sector, is to identify who is eligible to purchase explosives precursors. The Regulation imposes restrictions on members of the general public to make available, introduce, possess and use restricted explosives precursors. In parallel, the Regulation tasks economic operators to report suspicious transactions, including transactions involving **professional users**²⁵¹. Nevertheless, the current framework does not provide a definition of professional users, which leads to the uncertainty for economic operators in distinguishing persons that are eligible to purchase restricted substances from those that are not. Recent attacks have shown that terrorists have managed to purchase restricted explosives precursors falsely claiming to be a professional user.

Some countries, like Norway, have introduced stricter measures than those provided in the Regulation, notably extending the ban to legal persons with no professional need for explosives precursors and by introducing mandatory registration of sales for professional users.

Identification of products that fall under the scope of the Regulation

A main challenge for economic operators, particularly those in the retail sector, has been to identify products that fall under the scope of the Regulation. Products containing restricted explosives precursors must be labelled accordingly. When that is not done early on in the supply chain, it is difficult for operators at retail level to properly verify that the label is affixed and that the restrictions apply.

In addition, the explosives precursors listed in Annex II that are subject to reporting requirements are not required to be **labelled** under the Regulation. Economic operators, particularly those with high staff turnover, need to devote considerable time resources to identify products of concern and train their staff appropriately.

The practices related to labelling vary considerably along the supply chain. Many economic operators require that suppliers/producers identify whether their products contain explosives precursors in concentrations in line with the Regulation. Other operators reportedly review themselves the products they sell to identify possible presence of explosives precursors. It

²⁵¹ Art. 3.8, and art. 9, Regulation EU 98/2013 on the marketing and use of explosives precursors

cannot be excluded that several economic operators do not take any measure to identify that the products they sell are subject to the rules of the Regulation.

While manufacturers directly verify the presence of restricted explosives precursors in a product, the majority of retailers reportedly rely on information received from suppliers/manufacturers for labelling. Thus, a recurrent issue for economic operators appears to be the lack of clarity on allocation of responsibilities as regards labelling of products containing restricted explosives precursors. This uncertainty, in turn, poses difficulties to economic operators, notably retailers, to comply with the Regulation's provision regarding labelling of explosives precursors.

Awareness along the supply chain

Because many of the substances concerned by the Regulation are widely used household products, the supply chain is significantly larger than that of other products subject to specific control provisions at EU level, such as drug precursors.²⁵² This poses a challenge for competent authorities to reach all economic operators in the supply chain of explosives precursors to inform them of their duties. However, competent authorities in some Member States have, in collaboration with the associations that represent the chemical industry and retail sector, conducted awareness-raising campaigns and engaged with a wide range of operators — from manufacturers to retailers, big companies to small independent stores, and internet sellers to marketplaces.

Online sales

The online availability of explosives precursors in the EU is a further challenge. Explosives precursors are reportedly more widely available on the internet than in physical markets. A concrete example of the internet aiding the acquisition of explosives precursors for terrorist purposes is that of Anders Breivik for his attack in 2011 in Norway. An important number of the assessed online retailers allow for an easy access to explosives precursors with no mention of the Regulation, no requirement for a registration account, no check of identity and address of the requester. This poses a challenge for Member States in tracing movement of explosives precursors across the EU and monitoring and detecting suspicious transactions. Studies show that the majority of stakeholders involved in the marketing and regulation of explosives precursors are concerned with the security threat posed by the wide availability and insufficient controls of online transactions involving explosives precursors. Some Member States have recently started working with online retailers and marketplaces, including eBay and Amazon, to raise awareness, improve detection capabilities and enhance information exchange with competent authorities. The main challenges for operators are related to identifying products of concern, detecting non-compliant items, identifying meaningful suspicious activity indicators, and handling large and diverse amounts of data. There are

Key Observations

- ⇒ **Explosives precursors continue to be misused for the manufacture of HME**
- ⇒ **Fragmentation of control regimes across the EU create challenges for compliance of economic operators and pose a security concern**
- ⇒ **Economic operators face difficulties in identifying legitimate users at the point of sale and products falling under the scope of the Regulation**
- ⇒ **The level of awareness along the supply chain varies considerably and poses a security concern**

however good practices in the processing of orders, automatic data capturing and application of algorithm to report suspicious transactions that could be helpful to some operators.

ANSWERS TO THE EVALUATION QUESTIONS

The evaluation logic is framed under five different evaluation categories: Relevance, Effectiveness, Efficiency, Coherence and EU Added Value. Effectiveness considers how successful the Regulation has been in achieving or progressing towards its objectives by comparing those with the effects generated by the Regulation (outputs, results, and impacts). Efficiency considers the relationship between the resources used (inputs) and the effects generated by the Regulation (outputs, results, and impacts). Relevance looks at the relationship between the current needs and the objectives of the Regulation. Coherence looks for evidence of synergies or inconsistencies between the Regulation and other EU policies which are expected to work together. EU added value assesses whether action continues to be justified at the EU level and looks for changes which it can reasonably be argued are due to EU intervention, rather than any other factors. In order to evaluate the performance of the Regulation, the following general questions were used to guide the analysis.

Relevance

- To what extent have the objectives of the Regulation proved relevant to the needs identified at the outset?
- Do the objectives of the Regulation correspond to Europe's current and emerging problems and needs?

Effectiveness

- To what extent have the effects (outcomes and the impacts) generated by the Regulation contributed to achieving the objectives identified at the outset?
- Are there barriers and limitations to the effectiveness of the Regulation?

Efficiency

- What are the costs and benefits associated with the implementation of the Regulation?
- Have the objectives of the Regulation been achieved at lowest cost?
- Could similar/greater benefits have been achieved at lower/similar costs?
- Is there potential for simplification?

Coherence

- To what extent is the Regulation coherent with other EU legislative and policy measures?
- Are there inconsistencies, gaps and synergies between the Regulation and national legislative frameworks?

EU added value

- What results of the intervention could not have been achieved (or would have been less effective/efficient) without coordinated effort at EU level?

Relevance

The initial objective of Regulation EU 98/2013 was to reduce the risk of misuse of explosives precursors for the manufacture of HMEs by, among others, preventing access to identified threat substances by the members of the general public. The objectives identified at the outset of the Regulation, remains fully relevant today, in view of the security context presented above, namely the continuous misuse and attempts for the misuse of explosives precursors for manufacturing HMEs.

The Regulation is largely considered as relevant to the needs identified at the outset as well as to the current context. This has been confirmed through consultations of a wide range of stakeholders, including NCAs, including through the SCP, and industry.

a) Scope of the Regulation in terms of restricted substances

The Regulation covers substances that continue to pose a security threat to the public by being used for the manufacture of HME. As evidenced earlier (see 4.1), HME pose a higher threat than other types of explosives, such as military and commercial explosives and are reportedly the explosive of choice for jihadist terrorism. TATP is an explosive used in a majority of terrorist attacks in Europe in the last few years further to the adoption of the Regulation²⁵³. The three substances often used for manufacturing TATP are all covered by Regulation but only one through restrictions on their marketing and sale (hydrogen peroxide), whereas the other two are merely subjected to or obligations to report suspicious transactions (acetone and sulphuric acid). Equally, substances used for the manufacture of another often used explosive, HMTD, are also subject to the restrictions and controls of the Regulation²⁵⁴.

However, studies and stakeholder consultations also suggest that the framework is not fully relevant to certain current and emerging needs

i. Additional substances that pose security concerns

Studies and consultations of relevant stakeholders carried out for the purpose of this evaluation suggest that there are substances that represent a security threat as they have been used for manufacturing HMEs. The explosives precursors, Ammonium Nitrate and Sulphuric Acid are currently subject to the reporting obligations on suspicious transitions under the Regulation, but not to the restrictions on use for the members of the general public. These substances are largely considered to pose a security threat as evidenced through consultations of competent authorities and relevant industry representatives.

Sulphuric Acid is a chemical substance widely used in a number of manufacturing processes in the EU, including for the production of fertilisers, some cleaning products, in petroleum refining, in iron and steel production. The substance is also a precursor for a number of powerful explosives, including military explosives such as Trinitrotoluene (TNT), but also various HMEs, including the often used in terrorist attacks TATP as well as HMTD.²⁵⁵ The substance has also been used by Anders Breivik in the 2011 Norway attacks. Producing

²⁵³ Europol TE-SAT, *op. cit*

²⁵⁴ HMTD is based on the explosives precursors, hydrogen peroxide (listed in Annex I), hexamine (Annex II), and an acid as a catalyst.

²⁵⁵ A specific study on Sulfuric Acid was commissioned by the European Commission and carried out in 2015.

HMEs based on sulphuric acid is reported to be relatively easy, with little or no need of chemical background. However, a combination of precursors is always necessary for the production of explosives, some of which are already restricted under the Regulation, such as hydrogen peroxide and nitric acid. In addition, for the production of some HMEs such as TATP, the sulphuric acid can be replaced by other acids to achieve a similar result.

Ammonium nitrate is a substance widely used in fertilisers in the EU; it is also often used as a precursor for the manufacture of industrial explosives as well as a number of HMEs. Access to ammonium nitrate is restricted under the EU legal framework. At present, there are provisions on ammonium nitrate in both REACH and Regulation on the marketing and use of explosives precursors. Restrictions to the supply of ammonium nitrate as a substance have been set out in REACH at a time when no EU legal framework on explosives precursors existed. In addition, the Regulation on Explosives Precursors has subjected the supply of ammonium nitrate to a mechanism for reporting suspicious transactions.

The issue of possible transfer of ammonium nitrate from REACH to the Regulation has been examined by the Commission in a special report to the European Parliament and the Council²⁵⁶ and has also been discussed on numerous occasions in the SCP. The Commission considers that the provisions on ammonium nitrate are most relevant to the objective of the Regulation on Explosives Precursors to enhance public security from the threat posed by HMEs, whereas the main focus of REACH is on ensuring substances are used safely. The fact that provisions on ammonium nitrate are being dealt with by different EU legislative acts brings questions regarding the coherence of relevant EU measures. This matter is therefore further analysed in the section on Coherence.

Further security concerns are related to **metal powders** that have been used for the manufacture of HMEs in a number of attacks outside the EU. Specifically, aluminium powder has been reportedly used by ISIS in conflict zones²⁵⁷ as well as in a number of attempts for terrorist attacks in Europe. The supply of aluminium and magnesium powder is subjected to obligations of reporting suspicious transactions under the Regulation (Annex II), but not to the restrictions on marketing and use. The above metal powders have reportedly limited legitimate use for the members of the general public. The most well-known household applications of these metal powders are for the preparation of certain paints and homemade pyrotechnics, which are illegal in a number of EU Member States. The powders are also used for some professional products such as paint, varnish, lacquer, coating, printing ink, cosmetics and deodorants, but mostly not in high concentrations.

ii. Possible future threats

Europe is facing possible new security threats stemming from changing techniques in the use of explosives devices and continuous attempts for using new substances and lower concentration of existing substances for the manufacture of HME. One of the recent terrorist attacks in the EU showed that explosives precursors used were all substances in lower concentrations and not restricted under Annex I of the Regulation. The same case demonstrated that time for the preparation of the attack is becoming shorter, sometime a matter of two weeks. Reports from one competent authority indicate a noticeable wide use of chemicals, in general, by

²⁵⁶ COM (2015) 122.

²⁵⁷ Conflict Armament Research (2017), 'Tracing the supply of components used in the Islamic State improvised explosive devices'.

individuals for hobby and experimental purposes²⁵⁸. Many of these substances are not restricted, but subject to the reporting mechanism under the Regulation.

In a changing risk landscape, it is important to ensure that the framework can keep abreast of new and emerging threats and that it takes into consideration scientific progress explosives precursors. To this end, the proposal for Regulation laid down from the outset provisions empowering the Commission to supplement or amend, through delegated acts, the lists of substances subject to restrictions and reporting obligations. The Regulation in force, however, differs from the initial proposal, in restricting the powers of the Commission to adopt delegated acts concerning only changes in the limit values of restricted substances in Annex I and addition of substances to Annex II, where it is necessary to accommodate developments in the misuse of substances as explosives precursors. As a result, in order to add or delete restricted substances, the Commission has to adopt a legislative proposal, which has to undergo the ordinary legislative procedure. This procedure usually takes over 12 months.

In 2016, the Commission exercised its power to adopt delegated acts to add three substances to Annex II, notably, aluminium powder²⁵⁹, magnesium nitrate²⁶⁰ hexahydrate and magnesium powder²⁶¹.

b) Scope of the Regulation in terms of legitimate users

In accordance with Article 4 of the Regulation, restricted explosives precursors shall not be made available to, or introduced, possessed or used by, members of the general public. A member of the general public is defined by the Regulation as: "any natural person who is acting for purposes not connected with his trade, business or profession".

i. Legal entities with no legitimate use

Legal entities fall outside the scope of the general public, as defined in the Regulation. As a result, any legal entity is implicitly allowed to introduce, possess or use explosives precursors, regardless of whether the access to these substances is necessary for the conduct of the entity's professional activities. Consultations of stakeholders, including competent authorities and relevant industry representatives, suggest that the current definition represents a security concern, leaving possibility for individuals to acquire restricted explosives precursors, through legal entities, not necessarily connected to their professional activities. National investigations of reports of suspicious transactions have revealed **several cases of individuals attempting to illicitly acquire explosives precursors through an enterprise**²⁶². Qualitative feedback from stakeholders regarding the adequacy of the definitions of economic operators and members of the general public, referred to the need to cover legal persons and close the loophole which allows entities to acquire explosives precursors without verification of professional purpose.

ii. Professional users

²⁵⁸ National assessments of the effectiveness of Regulation 98/2013.

²⁵⁹ C(2016) 7647 final.

²⁶⁰ C(2016) 7650 final.

²⁶¹ C(2016) 7657 final.

²⁶² National assessments of the effectiveness of Regulation 98/2013.

The Regulation does not provide a definition of professional users, but it nevertheless tasks economic operators to report suspicious transactions, including transactions involving such users. Individuals and entities that use restricted explosives precursors in connection with their professional activity are concerned in practice by the provisions of the Regulation. Such users may have a wide range of activities, such as professional cleaning services, swimming pools maintenance, farming, to name a few. However, due to the lack of relevant definition in the Regulation and lack of clarity on the rights and obligations of this group of users, the current framework does not seem to be fully relevant to the current context of all concerned stakeholders. The lack of clarity on the restrictions and controls with regard to professional users reportedly pose concerns with regard to security as evidenced by stakeholders' consultation²⁶³. This also raises questions regarding the effectiveness of the Regulation which will be further addressed in the respective section.

iii. Economic operators

Economic operators are covered by the scope of the Regulation and defined as "any natural or legal person or public entity or group of such persons and/or bodies which delivers products or services on the market". The definition thus covers all economic operators, regardless of whether their activities are related to manufacturing or marketing of explosives precursors. Feedback from consulted stakeholders and SCP shows that a number of representatives from industry and NCAs does not find the current definition of economic operators fully appropriate.

iv. Online retailers

Restrictions and obligations for control of substances set out by the Regulation apply to economic operators, including online retail. The Regulation does not make explicit provisions with regard to the online market. Feedback from consulted stakeholders as well as experts in the SCP suggests that there is a lack of clarity for some marketplaces on whether obligations under the Regulation apply to them. In addition to the reported issue of definition and scope of obligations for online retailers, there are reported security concerns with regard to online sales. These issues relate to the effectiveness of the framework and will be further analysed in the respective section.

c) Scope of the Regulation in terms of reporting obligations

As evidenced in the section on the security context, there is a growing concern about transport and storage of explosives precursors (see section 4.1) in view of known incidents of theft of explosives from storage facilities. The Regulation does not lay down specific security measures relating to transport and storage of explosives precursors, but it nevertheless imposes an obligation on economic operators of reporting significant disappearances and thefts of the substances in Annex I and II, to the relevant NCPs²⁶⁴.

Feedback from stakeholders consulted in the preparation of this evaluation reiterated concerns about the lack of transport and storage provisions in the Regulation. Representatives of

²⁶³ The majority of the stakeholders consulted (OPC) considered that the lack of restrictions and controls applied to legal persons (including professional users) pose security concerns.

²⁶⁴ Art. 9.4 Regulation 98/2013.

industry highlighted that definitions of transport and storage are regulated at the UN level²⁶⁵ and that possible future provisions at EU level on storage of explosives precursors should take due account of how substances react with one another in a confined space and of the distinction between those that use explosives precursors and those that transport them.²⁶⁶

Key Observations

- ⇒ **The Regulation remains, in general terms, relevant to the current EU context and is addressing relevant and continuous needs, however:**
- ⇒ **Not all threat substances are covered by the current Regulation**
- ⇒ **The framework is not sufficiently flexible to adapt promptly to new and evolving threats**
- ⇒ **The Regulation does not cover all concerned parties or does not provide**

Effectiveness

This section analyses the effects generated by the application of the Regulation and assesses to what extent the Regulation has achieved its strategic objectives as referred to in the introduction section of the evaluation.

a) Effects of the implementation of the Regulation

The assessment conducted by Member States on the effectiveness of the Regulation and through consultations within the SCP, indicate that the application of the Regulation have resulted in limiting the overall availability of explosives precursors to the members of the general public. Some competent authorities indicate that **availability of restricted substances in Annex I has tangibly decreased in retail market** and that **public demand for these substances has diminished over the past years**. The majority of the consulted industry representatives and public authorities consider that the **Regulation has contributed to a large extent to raise awareness of the supply chain concerning risks**.

Restrictions and control regimes

A variety of regimes for the marketing and use of explosives precursors is observed across the Member States. The level of implementation and enforcement of the respective regimes also seems to differ across the EU, partially due to the fact that some Member States are still in the first years of implementation of their regimes.

²⁶⁵ Interview feedback: three representatives from economic operators.

²⁶⁶ Interview feedback: two representatives from economic operators.

The **ban** of explosives precursors is reportedly most homogenously enforced from the three regimes and the least burdensome regime for public authorities and economic operators, while the licencing and registration regime require setting up additional procedures.

The licencing regimes has been assessed by Member States that have been applying it, as overall effective method offering a balance between the need to protect and safeguard consumer choice and legitimate use. As regards **licencing**, the Regulation sets out some guiding principles for issuing licences to the members of the general public²⁶⁷, but does not define a common set of minimum requirements for granting or refusing a licence. As a result, different rules and practices on licencing are observed across the Member States with regard to type of information requested, reasons for refusal, rate of refusals, duration of validity, price of the service. Additional concerns arise from online sale of explosives precursors. Retailers selling restricted explosives precursors over the Internet need to ensure that they are selling restricted products only to licences members of the general public or relevant professional users and businesses. Some online retailers have introduced systematic request for licence information during purchases, but only in some cases, operators are able to check the validity of the licence in cooperation with the national competent authority²⁶⁸.

The licencing regime has had an effect on a very limited number of users in the EU. Overall, less than 1000 licences have been requested in total in the EU since the entry into force of the Regulation. A significant part of the Member States applying a licencing regime has recorded virtually no requests, for licences²⁶⁹. The Member States with the highest demand for licences have received on average below 150 applications per year. Reportedly, less than 500 licences have been granted in total in the EU since the entry into force of the Regulation. Among the main reasons for refusal of licences is the availability of non-restricted lower concentration substances suitable for the requested use.

The **registration regime** has had a limited applicability in the EU. Only six Member States apply registrations for the three substances identified in the Regulation²⁷⁰. Feedback from consulted competent authorities indicates concerns that the registration regimes may have been less effective than licencing in controlling access to restricted explosives precursors. Specifically, some Member States report in their national assessments of effectiveness of the Regulation that the licencing regime has offered an advantage in controlling and better monitoring the access to restricted explosives by some members of the general public and easier detection of suspicious attempts for acquiring restricted substances²⁷¹. Member States have reportedly laid down more homogenous rules on registration of transactions as compared to licencing, but compliance proves to be more challenging for economic operators²⁷². One Member State reports more than 250 checks carried out by the national authorities since the entry into force of the Regulation, more than a quarter of which have found infringements of the obligations to register transactions of restricted explosives precursors. Enforcement of the

²⁶⁷ Article 7, Regulation 98/2013.

²⁶⁸ Feedback from industry representatives consulted in the preparation of the evaluation.

²⁶⁹ 10 Member States apply a licensing regime to either all restricted substances or part of them, [4-5?] of which has registered from 0 to 10 applications since the adoption of the Regulation.

²⁷⁰ Article 4 Regulation 98/2013.

²⁷¹ National assessments of effectiveness of Regulation 98/2013.

²⁷² Ernst & Young, Rand Europe, (2018), *op. cit.*

registration regime remains overall challenging, as controls and inspections of registered transactions are reportedly not being carried out systematically by national authorities.

Specific concern emerges with regard to the registration of online sales. One Member State applying a registration regime, report significant difficulties in enforcing a registration regime on online sales, due to among others, lack of rules for the identification of legitimate users.

Reporting of suspicious transactions, disappearances and thefts

Reporting practices have overall contributed to improving detection across Member States of potential threat and misuse of available explosives precursors according to competent authorities. Several cases of reports of suspicious transactions from economic operators are known to have contributed to thwarting terrorist attacks. A known case in Germany, in 2015, of a planned terrorist attack targeting the Frankfurt bike race, has been thwarted by the police with the help of a report from a retail store of suspicious purchase of explosives precursors substances. The suspect has reportedly used a false identity when purchasing the substances.

However, the level of effectiveness of reporting mechanisms varies considerably across Member States. One European country with a population of 5 million has recorded close to 150 reports of suspicious transactions, thefts and disappearances since the entry into force of the Regulation, coming predominantly from national authorities and the police service²⁷³. However, the level of reporting varies significantly across Europe. Feedback from consulted competent authorities shows that some economic operators have very limited awareness of the Regulation and notably of their reporting obligations.

Reports from competent authorities raise additional concerns with regard to online sales. In one of the recent terrorist attack in the EU, explosives precursor substances that are not restricted, but subject to the reporting obligations under the Regulation have been successfully acquired by the perpetrators through online purchase from different addresses.

A specific security concern relates to the **lack of clarity** in the Regulation with regard to **professional users**. Consultations of public authorities and economic operators have repeatedly shown that identification of legitimate users at the point of sale is one of the major problems faced by industry, notably the retail sector. While the Regulation introduces the notion of professional user along with certain reporting obligations for Member States, it nevertheless does not provide a definition on professional users or measures facilitating the identification of such group of users. The lack of provisions as regards professional users creates legal uncertainties for both competent national authorities and economic operators and poses practical issues for the identification of such users, notably at the point of sale. Recent terrorist attacks in Europe have shown that restricted explosive precursors have been purchased through the general supply chain for illicit use with the false claim of professional use.

Labelling

Labelling requirements set out in the Regulation prove not to be sufficiently clear for economic operators. A recent market research performed in one Member States showed that

²⁷³ National assessments of effectiveness of Regulation 98/20132

an important number of retailers are not aware that they are selling explosives precursor substances. Retailers report encountering difficulties to identify products containing explosives precursors in concentrations above the limits set in the Regulation, especially when they are marketed as an ingredient of a product rather than a single substance product. Retailers often consider economic operators in upper stages of the supply chain to be responsible for the identification and labelling of concerned products. In parallel, manufacturers do not consider themselves to be concerned by the labelling requirements of the Regulation as they do not make available restricted explosives precursors directly to the members of the general public.

In addition, there seem to be no consensus among competent authorities across the EU on the need to apply labelling requirements to explosives precursors sold in countries having a ban in place for the members of the general public.

Feedback from consulted national authorities and industry suggests that there are **different interpretations and uncertainties along the supply chain as regards responsibilities for labelling** and information exchange on products' content.

b) Achievements of the main objectives

Limiting the availability of explosives precursors

A majority of Member States indicate that availability of explosives precursors on the market has tangibly decreased since the entry into force of the Regulation. One Member State, facing numerous attempts to misuse of explosives precursors in the past years, reports that the annual number of police cases involving explosives precursors, have decreased with one third since the entry into force of the Regulation²⁷⁴. Information from distributors, retailers and police forces in some countries applying a ban, indicates that members of the general public find it difficult to acquire hydrogen peroxide, above the limit value. Considering the fact that hydrogen peroxide is the substances of the highest demand among the restricted explosives precursors, limiting its availability to the general public has had a significant effect on reducing the overall risk of misuse of explosives precursors in the EU. A decrease in the overall availability of restricted substances has been reported also by a Member States carrying out regular 'mystery shopping' exercises for inspecting compliance with the Regulation.

However, **explosives precursors remain easily available online**. Assessments show that a variety of products containing restricted explosives precursors, including in high concentrations, are available for purchase through internet.

Improving detection

Following the entry into force of the Regulation, all Member States have set up national contact point and respective mechanisms for reporting. Reports from the national authorities and feedback from consulted industry evidence an overall increase of the amount of information shared on suspicious transactions in the years following the entry into force of the Regulation.

²⁷⁴ *Ibid.*

However, opinions of stakeholders suggest that the Regulation has contributed to improving reporting only partially and that more could be done to improve the effectiveness of the system. Awareness among the supply chain about obligations stemming from the Regulation varies considerably across Member States. Uncertainties of economic operators in applying the Regulation are to a certain extent related to the reported lack of clarity of the Regulation on issues related to the identification of legitimate users of restricted substances as well as responsibilities on labelling.

Improving the free movement of explosives precursors within the EU internal market

Feedback from stakeholders suggests that the Regulation has had a **limited effect on the harmonisation of the internal market** for explosives precursors. The Regulation has contributed to a low or very low extent to the smooth movement of explosives precursors within the internal market and to a low/moderate extent to harmonise controls and penalties across Member States, according to the majority of industry representatives consulted²⁷⁵.

²⁷⁵ Ernst & Young, Rand Europe, (2018), *op. cit*

The absence of explicit reference to e-commerce in the Regulation has given rise to uncertainties of online marketplaces on the application of the Regulation. Only few Member States have adopted voluntary measures and partnerships between public authorities and big online retailers. Feedback from consulted stakeholders suggest that further to the implementation of restrictions set out by the Regulation, a shift towards online sales of explosives precursors have been observed. This shift takes into account the rise of the online commerce in general, but may be partially attributed also to the weaker controls and limited traceability of transactions. Such a shift poses security concerns with regard to possible

Key Observations

- ⇒ The application of the Regulation has resulted in limiting the overall availability of explosives precursors on the market and notably to the members of the general public. However, explosives precursors continue to be accessed and misused for HMEs:
 - Not all **regimes** across Member States are **sufficiently effective** in reducing access to explosives precursors;
 - the issue of availability of restricted substances in **online** marketplaces has not been effectively regulated.
- ⇒ Reporting of suspicious transaction have showed positive examples of cooperation between industry and competent authorities, but **detection of potential threats remains overall challenging** due to:
 - insufficient awareness along the supply chain on rules and obligations stemming from the Regulation;
 - economic operators face difficulties in identifying concerned products and legitimate users.

misuse of explosives precursors, but also raises concerns as regards competition between physical stores and online retail.

Efficiency

The analysis of this section focused on identifying the main **types of costs and benefits** assessing the extent to which results achieved compare to the costs incurred by the application of the Regulation and identifying main **barriers to efficiency**, as well as **potential for simplification and cost savings**.

Costs and benefits

For the purpose of the evaluation, the following types of costs were considered, in line with the provisions of the Better Regulation Toolbox and Guideline:

- **Enforcement costs**, incurred by public authorities with implementation measures, such as monitoring, enforcement and adjudication;
- **Regulatory charges**, which include fees, taxes etc.
- **Substantive compliance costs**, which encompass those investments and expenses that are faced by economic operators and members of the general public in order to comply with substantive obligations derived from the Regulation;
- **Administrative burdens**, including the costs borne by authorities, economic operators and home users as a result of administrative activities performed to comply with information and reporting obligations contained in the Regulation;
- **Indirect costs**, which generally refer to changes in the prices and/or availability and /or quality of the substances subject to the Regulation and/or products containing them.

The intended benefit of the Regulation is an increased public security through a reduced risk of misuse of explosives precursors for the manufacture of HMEs and enabling environment for the free movement of explosive precursor substances in the EU internal market. Benefits from the reduced risk of misuse of explosives precursors for the manufacture of HME relate to significant costs of and high threat of terrorist attacks. As reported by national authorities, the estimated overall costs of one of the recent attacks in the EU involving HME amount to more than 100 million euro²⁷⁶.

From the study conducted in preparation of this evaluation, it emerged that the **main costs for economic operators** emerging from the application of the Regulation relate to **compliance**, notably costs of **training of staff**. Industry representatives, consulted during the evaluation process, report that costs related to the training of staff have somewhat increased following the entry into force of the Regulation²⁷⁷. On the basis of the preparatory study, the total cost is estimated to be between EUR 4.6 to EUR 29.9 million per year, being EUR 17.3 million the best estimate. By contrast, the consultation suggests that no significant additional costs have been incurred by economic operators for the identification of products falling under the Regulation²⁷⁸.

Cooperation between retailers and suppliers is necessary to ensure that products available to the general public containing Annex I substances above the concentration thresholds are labelled appropriately. Based on information from the targeted survey and interviews with key industry association, as long as manufacturers and formulators are made aware of the requirement, the costs of adding a single line of text to a label would be comparable to less than a day of work for a FTE per month. However, lack of data referring to the number of products being labelled does not allow estimating the total cost for this activity. Other **administrative costs**, notably those incurred economic operators to carry out **reporting**

²⁷⁶ Data from NCAs within the consultations supporting the evaluation.

²⁷⁷ 34% of the consulted economic operators estimate that costs have increased a little (up to 30 %) or a lot (more than 30%).

²⁷⁸ Majority of economic operators consulted report an effort of less than a day of work for a FTE per month in order to identify products concerned by the Regulation.

activities have **considerably increased** following the entry into force of the Regulation. Industry representatives consulted in the preparation of this study report spending around a day of work for a FTE per month for reporting suspicious transactions. Based on the results of the preparatory study, the total cost of reporting activities is estimated to be between EUR 96 to EUR 368 million per year, 232 million being the best estimate.

Enforcement of the Regulation implies **costs for public authorities**, among others, for the monitoring of compliance, carrying out inspections, and imposing penalties. Feedback from competent authorities consulted in the preparation of the evaluation, suggests that most of the costs incurred for enforcement are related to activities that Member States have been carrying out before the Regulation and that authorities have in turn, faced only a moderate increase of these costs following the entry into force of the Regulation.

The preparatory study shows that the most burdensome activity for public authorities is the registration and processing of licensing applications. The efforts required for processing licencing application is estimated of not more than a working day of FTE. It should be noted that the majority of countries applying a licencing regime have received virtually no requests for licences, i.e. between 0 and 30 applications per year for all restricted substances. Only very few Member States have faced a higher demand for licences from the general public, which still remains an insignificant share of less than 0.01% of the population of these countries, with up to 150 application per year for all restricted substances for populations between 10 and 65 million people.

In order to comply with the Regulation, public authorities have to meet some information obligations, such as to notify the Commission regarding national measures to restrict the marketing and use of explosives precursors to the general public and disseminate Guidelines. These activities are perceived by the relevant authorities as not more burdensome to what was performed before the introduction of the Regulation.

Main barriers to efficiency

Labelling of products containing restricted substances is perceived by consulted competent authorities and industry representatives as the most burdensome issue, mainly due to the lack of clarity of the Regulation on this matter. Provisions of the Regulation are interpreted in the sense that retailers need to ensure that labels are affixed to products falling under the scope of the Regulation. The lack of clarity of the Regulation's provisions on labelling and in turn the different interpretation by stakeholders of their respective obligations for labelling relevant products leads to inefficiencies as retailers incur additional costs for labelling in cases when this is not necessary. Retailers need to make further investments to identify products falling under the scope of the regulation when the products are not labelled accordingly by manufacturers.

Raising awareness on the Regulation's provisions, notably in the retail sector, is another burdensome activity for economic operators. Ensuring that all operators are aware of their obligations under the Regulation is considered costly, due to the high number of concerned businesses, the need for face-to-face interaction and the costs of trainings, including materials. In some countries inspections are used also for the purpose of awareness raising, at least in an initial phase after national laws enter into force, and the related costs are considered to be high. However, lack of awareness and of enforcement seriously hampers the application of the

Regulation provisions and limits the expected benefits in terms of reduced availability of explosives precursors to the general public and improved detection of potential threats.

The multiplicity of restriction and control regimes applicable to explosives precursors across the EU lowers the expected benefits of the Regulation, notably for the harmonisation of rules, traceability of transactions and limiting the access of the general public to threat substances. The **licencing regime** implies costs for public authorities related to processing applications from members of the general public. For most of the restricted substances, there has been **very low to virtually no demand** for licences by the general public. This concerns notably **Nitric acid, Potassium chlorate, Potassium perchlorate, sodium chlorate and sodium perchlorate**. These substances have generated very low demand for licences, in the margins of 0-30 applications per substance per year, for all MS applying licencing regimes.

This data confirms that the general public does not have a need for these particular chlorates and perchlorates in concentrations above the limit set by the Regulation. Almost all household applications of these explosives precursors do not exceed that limit of 40% w/w. Some herbi- and pesticides are manufactured at higher concentrations, but the general public can achieve an adequate result with concentrations not exceeding 40% w/w.²⁷⁹ The industry consulted has confirmed this understanding.

The vast majority of demands for licences issued since the entry into force of the Regulation, concern **hydrogen peroxide and nitromethane** and originate mainly from two Member States. The purpose of the majority of licences is related to either household use or hobbies, such as cleaning product for swimming pools and hunting trophies or as fuel for model vehicles (model cars, planes, helicopters etc.).

Nevertheless, concentrations above the limits set in Annex I, have not always proved to be necessary for carrying out the above activities. The Regulation allows members of the general public to obtain licences for hydrogen peroxide and for nitromethane, respectively above 12% w/w and 30% w/w. One EEA member with traditions in hunting, indicates that the introduction of the ban of hydrogen peroxide above 12 % led to a behavioural adjustment²⁸⁰ of the general public to lower concentration of the substances, which are considered sufficient to achieve the same end result. Most "nitro fuel" for model vehicles does not exceed the concentration limit for nitromethane, but there is some reported use and licenses granted for more concentrated nitromethane.

The Regulation also sets an upper limit for which hydrogen peroxide, nitromethane and nitric acid can be made available to members of the general public through registration of the transaction. The Regulation implies that there is no need for the general public to explosives precursors above such limit, and this is confirmed by the absence of any reports otherwise made by Member States that apply a registration regime.

The **registration regime** is perceived by some competent authorities and industry representatives as the least cost-effective option as compared to licencing and a ban for the general public. This regime reportedly implies higher costs for both industry, to register all relevant transactions, and for national authorities, to carry out inspections and check compliance of economic operators.

²⁷⁹ GHK, Rand Europe and Comstratos, 2010, *op.cit.*

²⁸⁰ Reportedly, hunters have widely used hydrogen peroxide 30% before the ban to bleach trophies.

The benefits of the registration regime are also reportedly lower than other regimes, as it adds value mainly for investigations of past incidents, but does not allow for suitability checks of individuals before a purchase and respectively, for detecting attempts for illicit use of explosives precursors, as opposed to the licencing regime. Actual cases show that terrorists, especially those that are planning suicide attacks, have no problem registering and identifying themselves. For this type of terrorist, the registration regime is not an obstacle, particularly having in mind that if the registration list is not timely made available to law enforcement, the perpetrators will have enough time to manufacture the HMEs and conduct the attack. Reportedly, there are lots of cases where post-attack investigations recovered that the terrorists had already been registered buying precursors on different locations with their real identity.²⁸¹

Potential for cost savings and possible simplifications

Clarifying labelling obligations and ensuring that manufacturers label appropriately products that fall under the scope of the Regulation and inform accordingly the remaining actors in the supply chain, particularly the retailers, is the key simplifying/cost saving measure from the perspective of the consulted economic operators.

Reducing the number of regimes across the EU is the most quoted possible simplification by public authorities. The application of the licencing regime in some Member States has demonstrated good results in cost efficiency with regard to promoting alternative substances and lower concentrations. One Member States has refused 99% of all licence requests for hydrogen peroxide, considering that there are suitable lower concentrations available for the use invoked by members of the general public. However, a majority of the consulted authorities and industry representatives seem to have diverging opinions on the availability of alternative substances.

Some of the consulted stakeholders suggest that the use of additives in explosives precursors inhibiting their dangerous properties would contribute to a moderate extent for reducing compliance costs for economic operators. Nevertheless, several representatives of Member States competent authorities pointed out during the consultations that, to date, there is no known viable market solution for additives that effectively inhibit the dangerous properties of explosives precursors without adversely affecting legitimate use of products containing these substances. More research is needed before a sound conclusion can be reached on whether additives can constitute a more cost efficient and more effective alternative, notably considering that methods for re-concentration may still be possible.

²⁸¹ ECTC Threat assessment, Europol 2018.

Key Observations

- ⇒ The complexity and variety of regimes for marketing and use of explosives precursors across the EU rend compliance of operators with the Regulation more difficult
- ⇒ the Regulation has been able to respond to the need to add new substances, but has not done this in the most efficient way due to time-consuming procedures in place

Coherence

The analysis in this section takes into account the results of a preparatory study evaluating the coherence between the Regulation and relevant EU measures in the following legislative acts: REACH, CLP Regulation, the Directive on Explosives for Civil Uses, Directive on Pyrotechnic articles, Fertilizers and the Regulation of drug precursors.

These above legislative measures have different aims. For example: REACH deals with the safety of chemicals but not the security of chemicals (whereas security is the focus of the Explosives Precursors Regulation); the Directive on Civil Uses of Explosive aims to improve the safety of the explosives industry; the Directive on Pyrotechnic Articles aims to guarantee free movement of such articles and protect health and safety.

These pieces of legislation are complementary, to the extent that they have a different focus in terms of substances/ products. For example, the Directive on Civil Uses of Explosive focuses on explosive products compared to the focus of the Regulation on substances that are explosives precursors; the Directive on Pyrotechnic Articles on fireworks and other articles (the Regulation does not apply to Pyrotechnic Articles). There was consensus among EU level stakeholders that there were no major inconsistencies or overlaps between these Directives and the Regulation.

However, there are differences in terminology and definitions between these pieces of legislation. While REACH and CLP refer to "placing on the market", the Regulation refers to "making available" and the Directive on Pyrotechnics Articles – to “making available on the market” and “placing on the market”.

Concerned industry actors are also defined in different ways in the different legislative acts: the Regulation refers to "economic operators" encompassing the retail sector, but without defining a professional user. REACH and CLP refer to “distributors” (which includes retail) and define what could be considered a professional user as "downstream user". These differences do not necessarily cause practical problems but can create difficulties in comparing the relative levels of protections and restrictions in different pieces of legislation.

The overall objectives of the Regulation and REACH are coherent and complementary. Whereas REACH deals with the safety of chemicals, but in general does not the security of chemical. An exception is the case of ammonium nitrate, which is regulated in different aspects by both REACH and the Regulation on explosives precursors.

Ammonium nitrate is a substance of wide use in fertilizers in the EU. The substance is also a precursor for often used industrial explosive ammonium nitrate – fuel oil (ANFO), as well as for a number of HME through a combination of substances, including fuel, sugar and aluminium powder.

At present, there are provisions on ammonium nitrate in both REACH and the Regulation. Under REACH, substances above a certain tonnage shall not be manufactured or placed on the internal market unless they have been registered. Moreover, under REACH ammonium nitrate containing nitrogen above a certain concentration in relation to the ammonium nitrate is prohibited to be placed on the market except for the supply to downstream users, distributors, farmers for the use in agricultural activities and natural or legal persons engaged in professional activities (e.g. horticultures, plant growing in green houses, maintenance of parks and gardens, forestry, etc.) members of the general public and only allowed for professional users. The Regulation subjects the supply of ammonium nitrate to a mechanism for reporting suspicious transactions, and also enables Member States, via a safeguard clause, to put in place further restrictions if there are reasonable grounds for doing so.

The possibility of transferring Ammonium nitrate from REACH to Regulation (EU) No 98/2013 has been discussed on a number of occasions in the SCP. The Commission examined the issue in 2015 and submitted it would re-examine the possibility and the exact nature of such a transfer as part of a larger review that is currently being carried out.²⁸²

EU Added Value

The Regulation supported the efforts of Member States to reduce the availability of explosives precursors by introducing common restrictions and controls on explosives precursors to the general public and therefore laying the ground for an increased level of harmonisation across Europe. One of the key factors calling for the introduction of the Regulation were the heterogeneous legislative and non-legislative measures to manage the risks related to the misuse of explosives precursors existing in 2010. Legislative and non-legislative measures existing at international and EU level did not address the threat posed by the misuse of explosives precursors appropriately, or did not cover high risk chemicals in a comprehensive manner. The comparison of the current implementation state of play (section 3.4) and with the baseline (section 2.3) shows that the Regulation made a first step towards the harmonisation of measures in a field that was previously regulated unilaterally by Member States. This has been achieved mainly by introducing a common list of explosives precursors with indication of concentration limits, together with restrictions on the sales to the general public and an obligation to report suspicious transaction. To date, all Member States and Norway have set up specific legislative measures to address the security threat posed by explosives precursors and the analysis of the implementation state of play shows some levels of convergence. Several Member States started to conduct controls throughout the supply chain. In addition, some economic operators discontinued the sale of some of the restricted and controlled substances and some Member States having in place a licensing regime reported to refuse the requests for licenses if there exist alternative substances for a legitimate non-professional activity.

²⁸² COM (2015) 122.

Without the Regulation, it is reasonable to assume that explosives precursors substances that are currently restricted would have continued to be widely available to the general public and that there would have been less incentive to use of alternative and less dangerous explosives precursor substances.

The Regulation was introduced as a single policy instrument to address the two priorities – the maintenance of high security across Europe and at the same time enhancing the internal market – taking into account the related trade-offs. This has been possible thanks to the flexible nature of the act that gives the possibility to adopt a ban, licensing or registration regime. The Regulation indeed sets common minimum thresholds while respecting the subsidiarity principle and leaving Member State the possibility to adopt more stringent measures according to their national needs and backgrounds. As regards security needs, considering a Europe without borders, Member States and EU citizens have been provided with the guarantee that the common security measures included in the Regulation concerning the explosives precursors are valid in all Member States therefore limiting security gaps potentially resulting from the different national approaches and commitment to the threat. The limits imposed contribute also to the functioning of the internal market. Common requirements indeed foster the creation of a level playing field, they reduce information costs and asymmetries for economic operators.

The Regulation also supported Member States' efforts to prevent and fight against the misuse of explosives precursors by introducing a legal obligation of reporting suspicious transactions for EO. It replaced national voluntary and heterogeneous practices with a requirement of systematic reporting for all economic operators across the EU. This provided a new source of intelligence to law enforcement authorities to support mitigating the threat related to the misuse of explosives precursors. Before the entry into force of the Regulation only few countries had recording and reporting mechanisms in place for identifying and reporting suspicious transactions.²⁸³ In most cases, the reporting system was set up on a voluntary basis by industry representatives. Smaller businesses did not have sufficient means to fully comply with voluntary measures, as these would have required high investments (e.g. nominating a security officer or attending dedicated training).²⁸⁴

The Regulation contributed to national efforts towards improving detection through increased information exchange. In particular, the creation of NCPs also facilitated the process of reporting and supported Member State efforts to prevent and fight against the misuse of explosives precursors. NCPs are responsible for receiving, analysing and storing the reports of suspicious transactions and for communicating with other countries if needed. The creation of NCPs is appreciated by some stakeholders that reported that it helped in sharing also cross-border intelligence,²⁸⁵ and worked as a point of reference for many Economic Operators.²⁸⁶ Although the Regulation does not set obligations on cross-border information sharing, the preparatory study shows that some cross-border activities have increased since the entry into force of the Regulation, in particular through bilateral or regional meetings with other Member States, information exchanges, joint enforcement operations, and participation to SCP meetings and workshops. In addition, some Member States have exchanged

²⁸³ E.g. the UK “Know your customer” campaign. GHK, Rand Europe and Comstratos, 2010.

²⁸⁴ GHK, Rand Europe and Comstratos, 2010, *op.cit.*

²⁸⁵ Interview feedback: two representative from NCA and two from NCP.

²⁸⁶ Interview feedback: two representatives from NCA and one NCP.

information through the NCPs on cases of suspicious transactions with cross-border dimension, which have resulted in arrests of persons. Through the national assessments of the effectiveness of the Regulation it emerges that the increased information exchange on suspicious transaction, is perceived as good practice that could be further promoted at EU level. Nevertheless, some Member States recall considerations of data protection for maintaining such information exchange between the relevant NCPs.

The Regulation added value to national and international initiatives in so far as it increased the awareness on the emerging threat related to explosives precursors by giving wide visibility to the threat of explosives precursors, and creating the political momentum to push for the prompt adoption of national restrictive measures. The Regulation gave to the misuse of explosives precursors a renewed importance for all actors of the supply chain and it triggered, following a top-down approach, the implementation of awareness raising activities and regular meetings of the SCP. Before the entry into force of the Regulation, only five Member States had awareness-raising measures in place at national level and throughout the supply chain, and in particular end users were reported to be overall insufficiently aware of the risks of terrorists and criminals attempting to obtain explosives precursors.²⁸⁷ After the entry into force of the Regulation, NCAs have adopted several measures to raise awareness and developed non-legislative measures to facilitate the correct implementation of the Regulation. In some countries in particular, the NCA plays a very active role. In Sweden for instance, it organised awareness campaigns and worked together with associations and retailers to develop effective initiatives. Also the institution of the SCP contributed to add value to national initiatives by providing a platform for the exchange of information and mutual learning.²⁸⁸

However, the overall EU added value linked to an EU intervention in this field appears to be limited by the fragmentation of restrictions and control regimes across the EU and the insufficient level of awareness along the supply chain. The existence of different regimes seems to negatively affect the cross-borders sales of regulated explosives precursors and with an impact on retailers wishing to sell the regulated substances across countries, who find it difficult to comply with different requirements.²⁸⁹ The multiplicity of regimes seems to raise also security concerns limiting the effectiveness of controls and more in general the enforcement of the Regulation's provisions. In addition, some stakeholders reported that if Regulation limited the availability of explosives precursors to the general public in physical shops, it might have brought to a shift towards the purchase of explosives precursors via internet, where the Regulation's provisions are not fully applied.²⁹⁰

With regard to the uneven level of awareness, there is evidence of the difficulties to ensure full awareness along the supply chain and there is consensus of economic operators on the need to better clarify some definitions related, among others, to professional users and suspicious transactions, in order to ensure an effective reporting and adequately support national prevention and repression initiatives.

²⁸⁷ GHK, Rand Europe and Comstratos, 2010. *op.cit.*

²⁸⁸ Interview feedback: one representative of NCP and two representatives from NCA.

²⁸⁹ Feedback from interview: four economic operators.

²⁹⁰ Interview feedback: four representatives from NCA, one economic operator and one representative of NCP. Questionnaire to Member States on the effectiveness of Regulation (EU) No 98/2013.

CONCLUSIONS

It emerges from the evaluation that the overall objectives of the Regulation remain relevant to the current needs, due to the continued terrorist threat in Europe. Nevertheless, the analysis showed that not all relevant threat substances and concerned stakeholders are covered and clearly defined in the current framework, suggesting that **the level of access to restricted substances is not fully adequate to the current context and to address new and evolving threats**. The Regulation covers substances that continue to pose a security threat to the public by being used for manufacturing HMEs. However, some substances that currently pose a threat are not subject to the restrictions of the Regulation. The lack of definition or **insufficient clarity in the Regulation as regards certain relevant categories of users and concerned stakeholders**, such as professional users and online retailers, creates legal uncertainties for both competent national authorities and economic operators and pose practical issues for reporting suspicious transactions, detection of potential threat and prevention of illicit access to explosives precursors.

The Regulation proved to be only partially effective in reaching its specific objectives. Following the entry into force of the Regulation the availability of explosives precursors to members of the general public has been reduced and reporting of suspicious transactions improved. However, limitations have been identified with regard to the application and enforcement of the Regulation. The lack of uniform level of controls and the diversity of ways they have been implemented are not deterrent enough. **Surveillance and reporting obligations have not always been effectively applied and enforced by public authorities**. The lack of clarity of the notion of professional users and of the definition of members of the general public leaves room for interpretation. The current level of awareness of the Regulation requirements along the supply chain is still uneven and the lack of clarity of some definitions creates room for interpretation that eventually affect the comprehensiveness of existing reporting systems. **Fragmentation of control regimes across the EU has created challenges for compliance of economic operators and poses a security concern**.

Overall the **costs introduced by the Regulation are estimated as proportionate to its general and specific objectives**. The most affected stakeholders are economic operators, and in particular retailers. The most burdensome activities are reportedly the ones related to training and awareness raising of staff members and reporting suspicious transactions, thefts or significant losses. Most of the costs for national authorities are associated to activities that have been already carried out before the Regulation and increased only moderately following the entry into force of the Regulation. Potential for simplification and cost savings has been identified in possible further harmonization of the system of restrictions and controls, clarification of some labelling obligations, and faster and more flexible EU procedure for enabling changes to the list of restricted substances.

The Regulation is in general consistent and complementary to key relevant EU legislation, such as REACH, the CLP Regulation, the Directive on Explosives for Civil Uses, the Directive on Pyrotechnic Articles, the Directive on Fertilisers, and the regulations on Drug Precursors. Some differences have emerged as regards certain **definitions** (e.g. ‘placing on the market’ vis-à-vis ‘making available’). A transfer of relevant provisions on restrictions on Ammonium nitrate from REACH to the Regulation will improve the coherence of the framework.

The introduction of a binding measure as the Regulation brought a number of advantages that added value to national and international measures aiming at tackling the threat posed by explosives precursors.

However, the overall EU added value linked to an EU intervention in this field appears to be limited by the fragmentation of the system of restrictions and control regimes across the EU (i.e. ban, licencing, and registration) and by the diverging level of awareness along the supply chain.

ANNEX 4: MARKET ANALYSIS

Introduction

In order to better contextualise the market for chemicals affected by Regulation 98/2013, and in view of supporting the assessment of the policy options, this annex reports key market features of the substances listed in Annex I and II of Regulation 98/2013. The annex first lists figures for production,²⁹¹ as well as imports and exports,²⁹² and information on the supply chain (market concentration and users) for each substance. Data from 2008 is compared to data from 2016, where available. After listing all substances, the annex analyses the potential market affected by Regulation 98/2013, and includes an estimate of the market for the general public (non-professional users). The size of the online market is illustrated with data taken from a very large operator in the five largest national markets in the EU.

Data used

This analysis is largely based on information retrieved from Eurostat and the European Chemical Agency (ECHA), as well as information gathered during a preparatory study commissioned by DG HOME to inform an impact assessment that preceded the legislative proposal for Regulation 98/2013. Registration data from the European Chemical Agency (ECHA) provides information on the suppliers, importers and manufacturers of substances. The information gathers the companies that have registered their substance under REACH, whether they are active or inactive. Nonetheless, it should be noted that under certain specific conditions, registrants may claim confidentiality of their identity. Thus, breakdown presented by country should not be considered as exhaustive lists. Moreover, it should be noted that retailers are not taken into account by the data provided by ECHA. This disclaimer is valid for all substances analysed in this section.

General overview

From the figures presented below in detail, it can be concluded that the production of restricted explosives precursors, listed in Annex I of Regulation 98/2013 in the EU has not changed substantially between 2008 and 2016. More fluctuation can be seen in the production regarding those explosives precursors listed in Annex II, which in some have increased (sodium nitrate) or decreased (calcium nitrate) exponentially. The proportion

Hydrogen Peroxide (H₂O₂) – Annex I substance -

Production

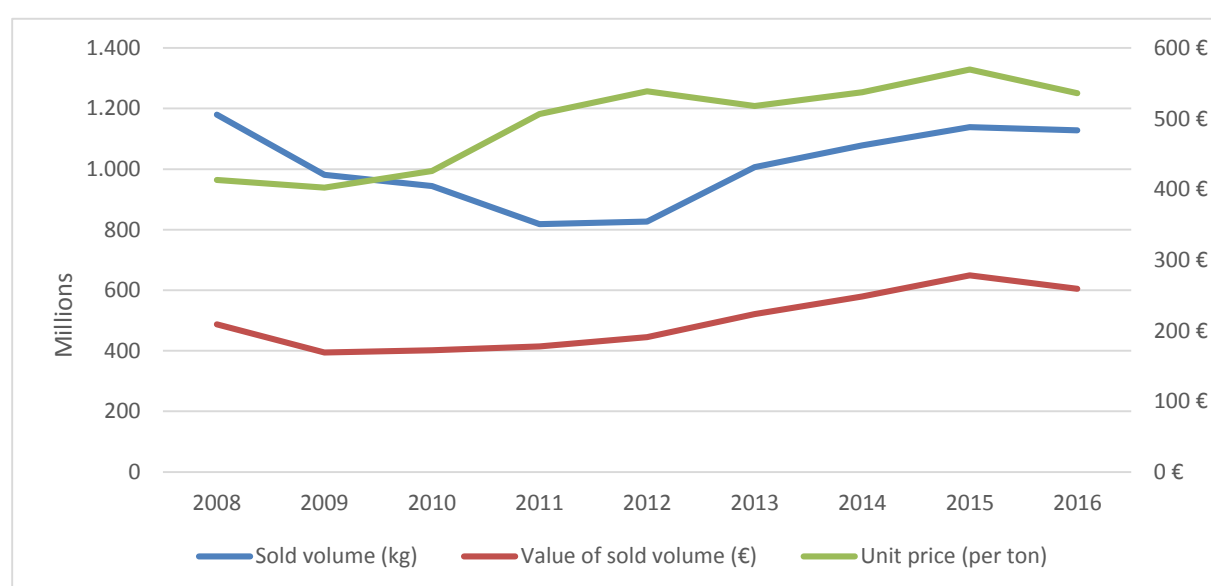
²⁹¹ Value of sold production refers to the production sold outside enterprises of the EU during the reference period.

²⁹² Import and export data comprise the sum of trade with all third countries.

In 2016, the EU28 sold 1,128 kt of Hydrogen Peroxide, amounting to a production value of €604 million (€535 per ton).²⁹³ In 2008, the total sold production of the substance amounted to 1,182 kt of Hydrogen Peroxide with a value of €487 million. In 2018, the price per unit accounted for 414€ per ton. The production value increased by 23%, while volumes decreased by 4,6%.

The figure below shows the production trends of Hydrogen Peroxide between 2008 and 2016. Overall, for the period 2008 to 2016, the quantity of sold volume of Hydrogen Peroxide has slightly decreased, from 1,179 kt to 1,128 kt. The volume of sold production reached its lowest point between 2011 and 2012. The decrease of quantity of sold production was however been coupled by a steady increase of the price per ton of the substance between 2008 and 2015, with a notable decrease in 2016.

Figure 4: Hydrogen Peroxide - Production trends



Source: PRODCOM 2018, Eurostat

Export and import

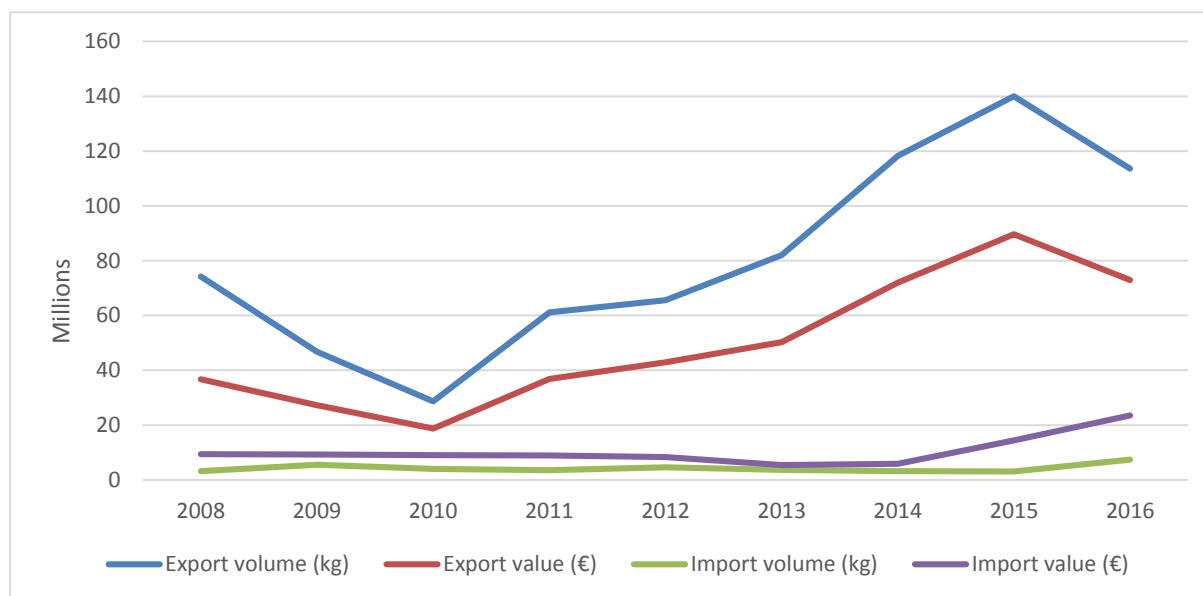
According to PRODCOM statistics, in 2016 the EU28 Member States imported 7.3 kt of Hydrogen Peroxide with a value of €23.5 million, representing a price unit of €3192 per ton. Moreover, the export quantity amounted to 113 kt, at a value of €72.8 million, which represents a price per unit of €642 per ton. The net export amounts to 106 kt of Hydrogen Peroxide, representing €49.3 million.

The Figure below shows the imports and exports (volume and value) of the EU28 towards/from third countries between 2008 and 2016. In terms of the volume and the value of exports of Hydrogen Peroxide, a considerable decrease can be observed between 2008 and 2010; the export volume of the substance decreased from 74.3 kt in 2008 to 28 kt in 2010. Also, export value decreased from €36.6 million in 2008 to €18.7 million in 2010. Nonetheless, this is followed by a trend of substantial export increase (volume and value)

²⁹³ Prodcom data, Eurostat 2018.

between 2010 and 2015, before a sharp decrease in 2016. Conversely, the volume and value of imports of the substance remains stable for the period 2008-2014, before increasing slightly in 2016.

Figure 5: Hydrogen Peroxide - Trade flows



Source: PRODCOM 2018, Eurostat

Supply Chain: Market concentration and uses

A total of 31 companies that have registered Hydrogen Peroxide under REACH. Germany arises as the Member State with the most companies having registered the substance (6 in total), followed by Belgium and Spain, accounting for 3 companies each.

As stated by ECHA, Hydrogen Peroxide is manufactured and/or imported in the EEA in 1,000,000 – 10,000,000 tonnes per year. The substance has several types of uses, including, consumers uses, manufacturing, professional uses, in-formulation or re-packing, and uses at industrial sites.

Almost all (98%) of hydrogen peroxide is used in the industry as a process reagent. The substance is mainly used as a pulp bleaching agent. Household uses of hydrogen peroxide include hair care products, tooth products (such as buccal disinfectants), cleaning products (e.g. dishwashing detergents, toilet cleaners, pool cleaners), bleaching of textiles, food additives, disinfectants, and deodorants. The table below summarises the main professional and non-professional uses of Hydrogen peroxide.

Table 1: Hydrogen peroxide - Substance uses

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At industrial sites uses

• Cosmetics and personal care products • Biocides (e.g. Disinfectants, pest control products) • pH regulators and water treatment products • Textile treatment products and dyes • Washing & cleaning products • Water treatments chemicals	• pH regulators and water treatments products • Laboratory chemicals • Washing & cleaning products • Water treatment chemicals • Cosmetics and personal care products • Biocides (e.g. disinfectants, pest control products) • Fertilisers • Leather treatment products • Lubricants and greases • Textile treatment products and dyes	• Metal surface treatment products • pH regulators and water treatment products • Semiconductors • Metal working fluids • Biocides (e.g. disinfectants, pest control products) • Laboratory chemicals • Leather treatment products • Lubricants and greases • Paper chemicals and dyes • Textile treatment products and dyes • Water treatment chemicals
--	---	--

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance via the internet

Data collected from a large online retailer has shown (see Table 17) that there is a relatively large number of products linked to Hydrogen Peroxide available for sale. Indeed, the highest number of products can be found on the French and Spanish version of Amazon serviced regions, at 306 available products each. However, The German and British market display the highest number of different retailers, accounting for 143 and 136 respectively. Comparatively, each region displays similar returns of number of products.

Nitromethane – Annex I substance -

Production trends

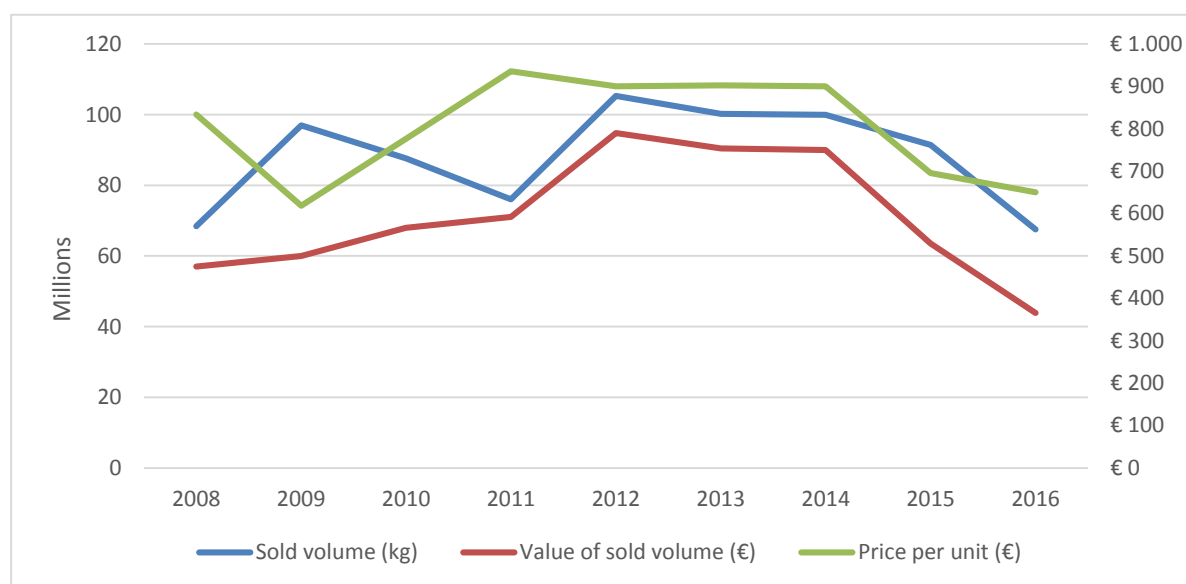
PRODCOM data does not include the substance of nitromethane as a single group. This issue was identified previously in the Impact Assessment in 2010. While the latter used a proxy indicator (production in the US), in this case the aggregated group for nitromethane is used: “Derivatives of hydrocarbon containing only nitro or only nitroso groups” (PRODCOM code 20.14.14.70)²⁹⁴.

²⁹⁴ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

In 2016, data shows that the substance group amounted to 67 kt, which represents a value of €43.8 million. Thus, the price per unit amounts to €650 per ton. In 2008, the sold production volume amounted to 68 kt representing a value of €57 million, thus a price per unit of €833 per ton of the substance group.

The Figure below shows the volume and value of sold production, as well as the price per unit for nitromethane between 2008 and 2016. Overall, **both volume and price have decreased** during the period considered. Moreover, a sharp decrease should be noted from 2014 onwards. The substance has been classified by the International Agency for Research on Cancer (IARC) as “possibly carcinogenic to humans” group 2B²⁹⁵. The price drop of nitromethane may suggest a certain degree of deselections and substitution for less hazardous products.

Figure 6: Nitromethane - production trends



Source: PRODCOM, 2018

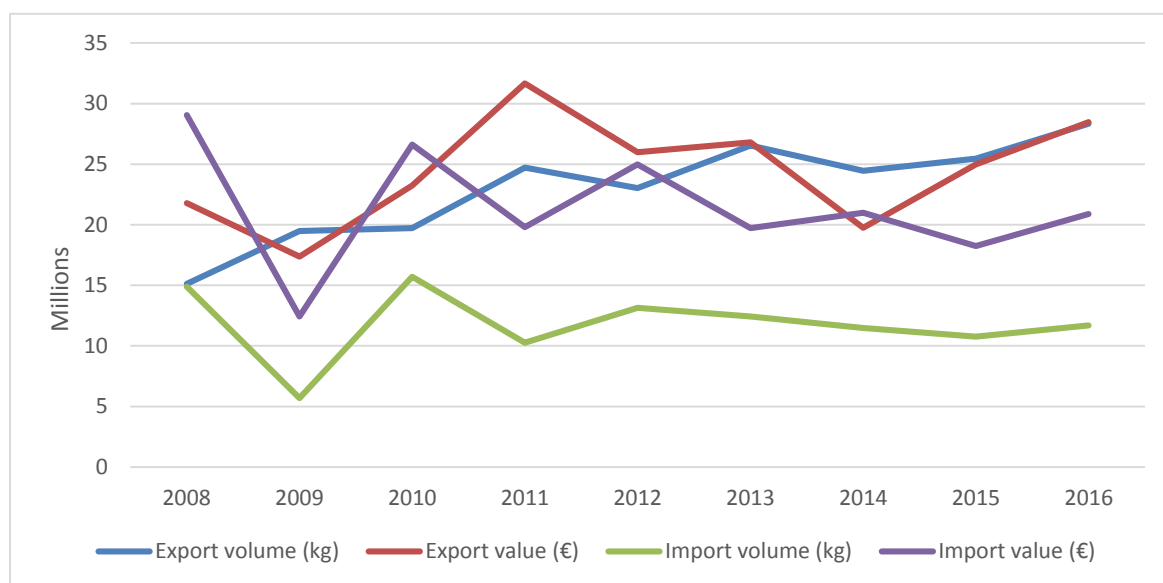
Export and import

According to PRODCOM data, in 2016, the volume of nitromethane exported by the EU28 amounted to 28 kt, amounting to a value of €28 million. Conversely, the amount of imports involved a volume of 11 kt of nitromethane, amounting to a value of €20.8 million.

The Figure below shows the exports and imports volume and value between 2008 and 2016 for nitromethane of the EU28 towards/from extra-EU countries. Overall, the volume and value of imports has decreased over the period considered. Notably, a sharp decrease in 2009 could suggest the impact of the economic and financial crisis. Nonetheless, the volume and value of exports has increased between 2008 and 2016.

²⁹⁵ International Agency for Research on Cancer, World Health Organization, 2018, retrieved from: http://monographs.iarc.fr/ENG/Classification/latest_classif.php.

Figure 7: Nitromethane - trade flows



Source: PRODCOM, 2018

Supply chain: Market concentration and uses

Two companies, located in Germany, registered with ECHA for nitromethane. The last dossiers received for the substance were in 2017, which indicates that registrations for nitromethane are more recent than the other substances identified in this analysis. According to ECHA, Nitromethane is manufactured and imported in the EEA in 1000 to 10,000 tonnes per year.

In terms of uses, **nitromethane's main uses are for professional uses, consumer use is mainly referred to motorsport hobbyists, notably in drag races and radio-controlled engines (**

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At industrial site uses
Fuels	- pH regulators and water treatment products - laboratory chemicals	- pH regulators and water treatment products - laboratory chemicals - cleaning solvent - extractions - reaction medium in chemicals production - intermediate chemical in organic synthesis such as pharmaceuticals,

		pesticides, fibers, coatings
--	--	------------------------------

).

Table 2: Nitromethane - Substance uses

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At industrial site uses
Fuels	- pH regulators and water treatment products - laboratory chemicals	- pH regulators and water treatment products - laboratory chemicals - cleaning solvent - extractions - reaction medium in chemicals production - intermediate chemical in organic synthesis such as pharmaceuticals, pesticides, fibers, coatings

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance via internet

The figures collected from a large online retailer (see Table 17) shows that there is relatively little availability of the substance for sale. Indeed, the largest number of products available can be found on the French market, at 55 products, as well as the highest number of retailers, accounting for 15. The British and German markets are comparable in terms of retailers, with 11 each, while the Italian market displays the lowest number of availability of nitromethane.

A report from 2015 states that the accessibility of the substance is limited to products that contain concentrations in line with the regulation²⁹⁶. The current analysis has identified an identical trend, as in that there are no products available that contain Nitromethane in higher concentrations than specified by the regulation.

Nitric Acid (N) – Annex I substance -

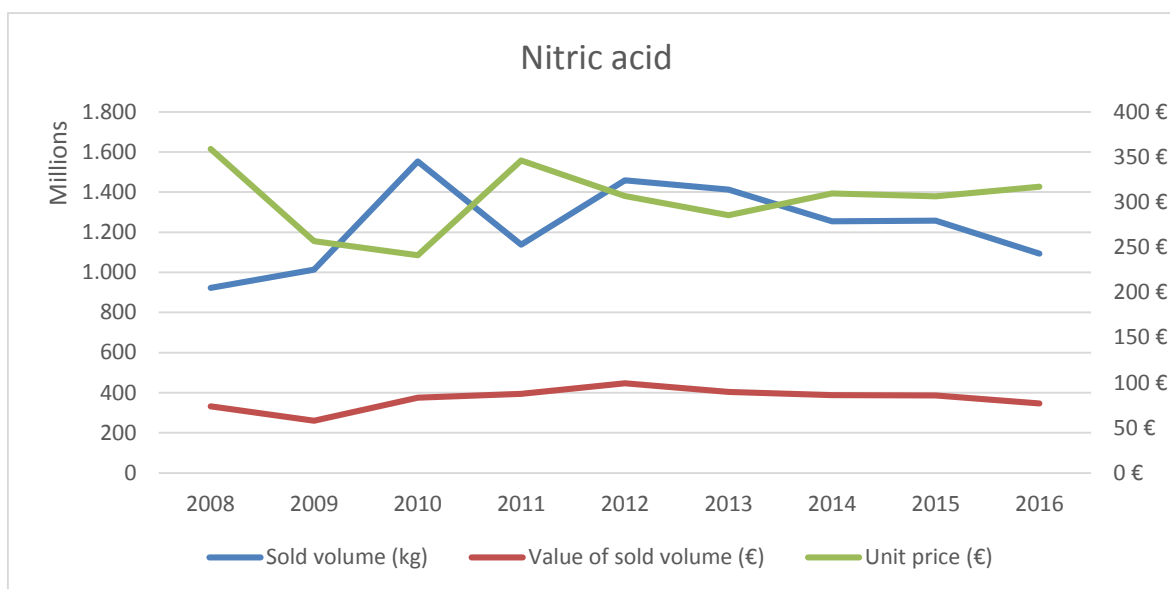
Production trends

In 2016, EU Member States reported that 1,094 kt of Nitric Acid had been sold, accounting for a total value of €346.9 million. This represents a price per unit of €317.1 per ton of Nitric Acid. The total sold production of the substance in 2008 amounted to 917 kt, representing a value of €330 million. At the time, the price per unit was higher, at €360 per ton.

²⁹⁶ Brief Nitromethane, ENCO, November 2015, restricted.

The Figure below displays the production trends of Nitric Acid for the period 2008-2016. While the value of the sold volume has remained relatively stable over the considered time period, both the price per unit and sold volume have fluctuated considerably, showing a persistent diverging pattern between sold volume and unit price for the whole period.

Figure 8: Nitric Acid - production trends

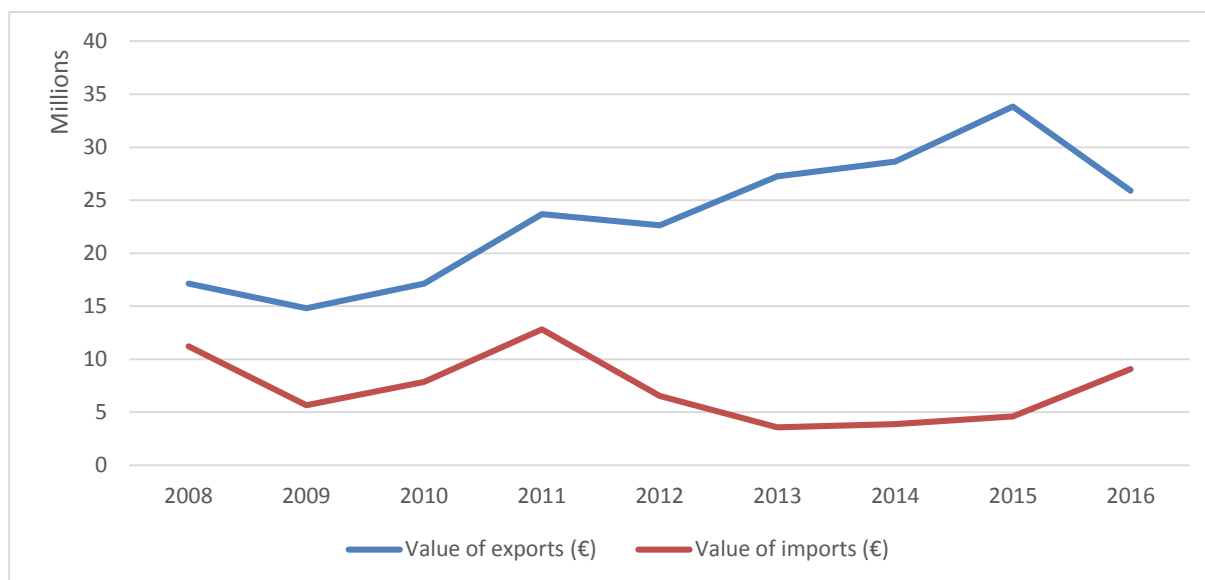


Source: PRODCOM 2018, Eurostat

Export and import

The figure below shows the trends in the value of exports and imports between 2008 and 2016 for Nitric Acid of the EU28 towards/from third countries. Overall, between 2008 and 2016, the value of exports has increased while the value of imports has decreased. According to PRODCOM statistics, the value of exports in 2016 of Nitric Acid amounted to €25.8 million, while the value of imports amounted to €9.08 million. The net export value amounted to €16.8 million in 2016.

Figure 9: Nitric Acid - Value of imports and exports



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In the case of Nitric Acid, the majority of the companies having registered their substances at the European Chemical Agency are located in Germany, with 14 registrations. France represents the second largest share in terms of registrations, with 7 companies in total. The following Member States in terms of number of registrations are Poland (6), the Czech Republic (5), Romania (5), Belgium (4), and the United Kingdom (4).

The majority of Nitric Acid (58%) is used in the production of Ammonium Nitrate. Other consumption patterns of the substance include the production of adipic acid (7%), isocyanates (2%), military use in explosives (6%), production of fertilizers (5%), industrial explosives (3%), nitrobenzene (1%), and in other applications not listed (18%). Nonetheless, **it was acknowledged that there is little household use of highly concentrated Nitric Acid, with the exception of metal worker hobbyist²⁹⁷.**

Table 3: Nitric Acid - Substance uses

<i>Table 1. Consumer uses</i>	<i>Table 2. Professional uses</i>	<i>Table 3. Formulation and re-packaging</i>	<i>Table 4. Industrial site uses</i>
• Washing & cleaning products, • Fertilisers, • Polishes and waxes and	• Fertilisers, • Washing & cleaning products, • Metal surface treatment products,	• Washing & cleaning products, • Ph regulators and water treatment products, • Metal surface	• Ph regulators and water treatment products, • Washing & cleaning products,

²⁹⁷ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

• Air care products	• Non-metal-surface treatment products, • Ph regulators and water treatment products • Laboratory chemicals	- treatment products, • Non-metal-surface treatment products • Fertilisers • Nylon precursor • Rocket fuel	• Metal surface treatment products, • Non-metal-surface treatment products, • Water treatment chemicals, • Semiconductors • laboratory chemicals
---	---	--	--

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance via internet

Data collected from a large online retailer servicing 5 European regions (see Table 17) shows that the highest availability of products containing Nitric Acid is in the United Kingdom. Indeed, the online retailer returns 317 results, along with 157 different retailers. The aforementioned market is much larger than its French and German counterparts, which account for 190 and 144 products respectively. Conversely, the Spanish and Italian markets are smaller in comparison, with 81 and 91 products respectively.

Potassium chlorate, potassium perchlorate, sodium chlorate, sodium perchlorate – Annex I substances -

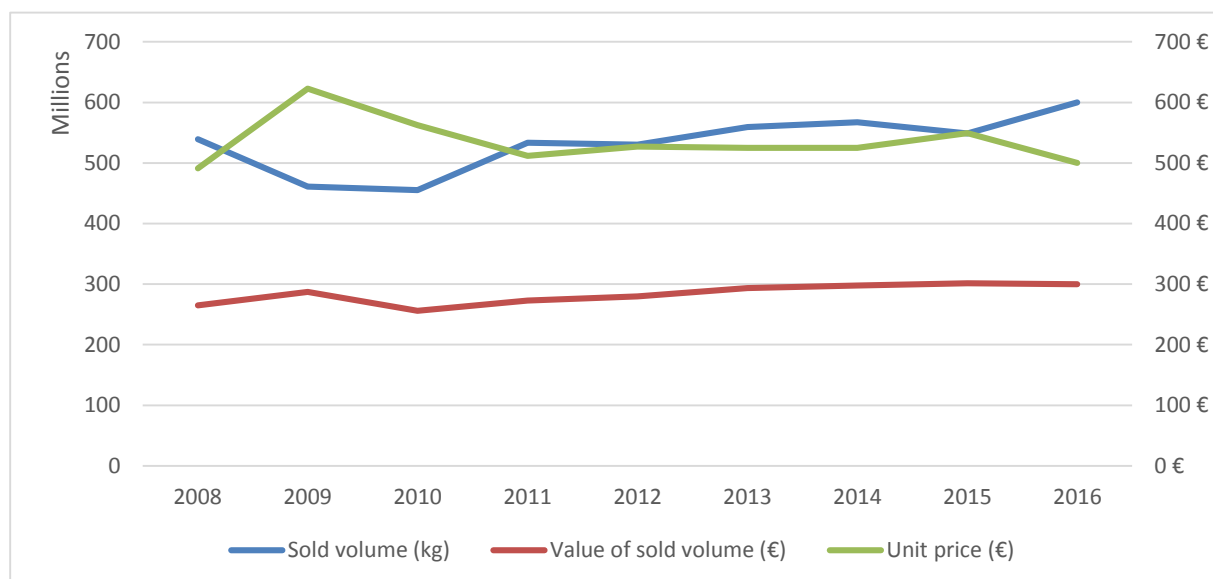
Production trends

The data for sold production and value is not available at substance level for sodium, potassium chlorates and perchlorates. Instead, all four substances are aggregated at a higher level of chemical compounds, called the “chlorates and perchlorates; bromates and perbromates; iodates; and periodates” (code 20133250). **This group also includes ammonium and barium perchlorate, which constitute significant part of production.**²⁹⁸

In 2016, the volume of sold production of the substance group amounted to 600 kt, at an estimated value of €300 million, with a price per unit of €500 per ton in 2016, which states a slight increase over the period 2008-2016 (Figure).

²⁹⁸ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

Figure 10: Chlorates and perchlorates; bromates and perbromates; iodates and periodates - production trends

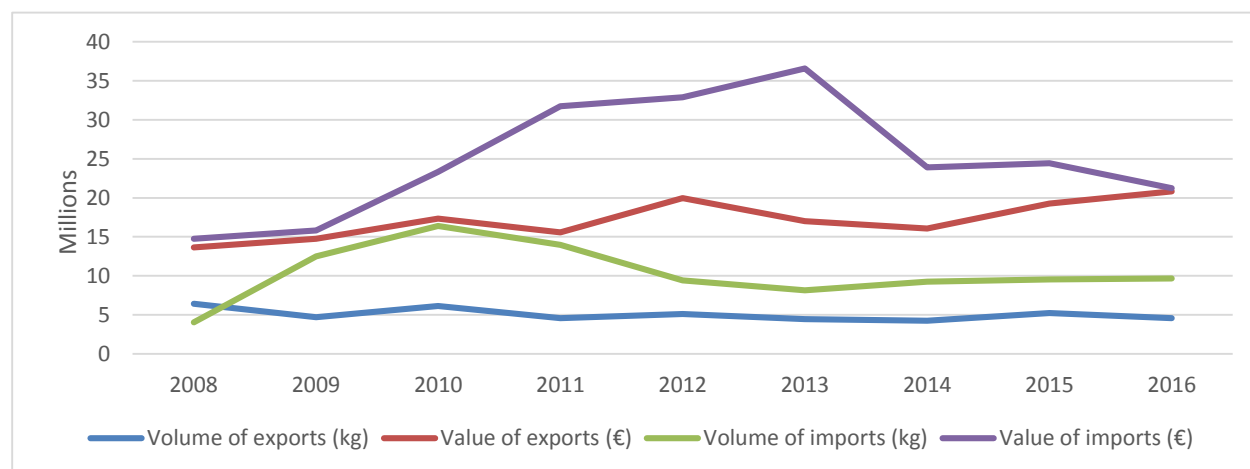


Source: PRODCOM 2018, EUROSTAT

Export and import

The trade balance for the substance group is negative for the EU28 market (€-0.4 million), with imports from extra-EU countries always higher than exports, in the period 2008-2016. The EU28 exported (towards extra-EU countries) a volume of the grouped substance that amounted to 4.5 kt in 2016, representing a value of €20.8 million. Conversely, the volume of imports of the grouped substance accounted for 9.6 kt, which represents a value of €21.2 million. It is worth noting that the value of imports of the concerned group of substances did considerably increase between 2008 and 2013, before abruptly decreasing in 2014. As aforementioned, the group includes various substances. Thus, trends in trade are difficult to explain and cannot be related to a single event.

Figure 11: Chlorates and perchlorates; bromates and perbromates; iodates and periodates - Exports and Imports



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In the case of this substance group, potassium chlorate, potassium perchlorate, sodium chlorate, and sodium perchlorate have been aggregated under the same group to identify all companies having registered their substances under REACH. France represents the largest share in the EU28 with 4 companies. The following countries are Spain (2), Finland (2), and Sweden (2).

With regards to the **uses**, it must be noted that:

- The use of sodium chlorate as a herbicide was banned in 2008 due to its harmful effects on human health.²⁹⁹
- Sodium perchlorate is less widespread, mostly used as oxidiser agent.
- Potassium chlorate and potassium perchlorate are mostly used in industrial pyrotechnics.
- Household use of both is mainly indirect: the access is mostly related to consumption products such as fireworks, matches, and pesticides.

Table 4: Potassium chlorate, potassium perchlorate, sodium chlorate, sodium perchlorate - Substances uses

Name of substance	Industrial and professional Uses	Non-professional uses (Consumer Uses)
Potassium chlorate	• Oxidizing/reducing agents	
Potassium perchlorate	• Oxidizing/reducing agents	• Pesticide

²⁹⁹ Commission Decision 2008/865 (OJ L 307, 18.11.2008, p 7).

Name of substance	Industrial and professional Uses	Non-professional uses (Consumer Uses)
Sodium chlorate	• Bleaching agents • Fuels and fuel additives • Intermediates • Oxidizing/reducing agents • Processing aids, specific to petroleum production • Solvents (for cleaning or degreasing)	
Sodium perchlorate	• Oxidizing/reducing agents	• Batteries • Explosive Materials • Plastic and Rubber products

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance via the internet

The analysis of the data extracted from a large online retailer in different serviced regions (see Table 17) shows that Sodium Chlorate is the most widely available product across the group of substances, accounting for 91 different products in the United Kingdom and 56 in France. The smallest market for Sodium Chlorate are in Spain and Italy, which count 1 product each. The least available substances are Potassium Chlorate and Sodium Perchlorate. Moreover, Italy displays the lowest availability of the products, as well as the lowest number of retailers, with only 1 result being returned for Sodium Chlorate.

Hexamine – Annex II substance -

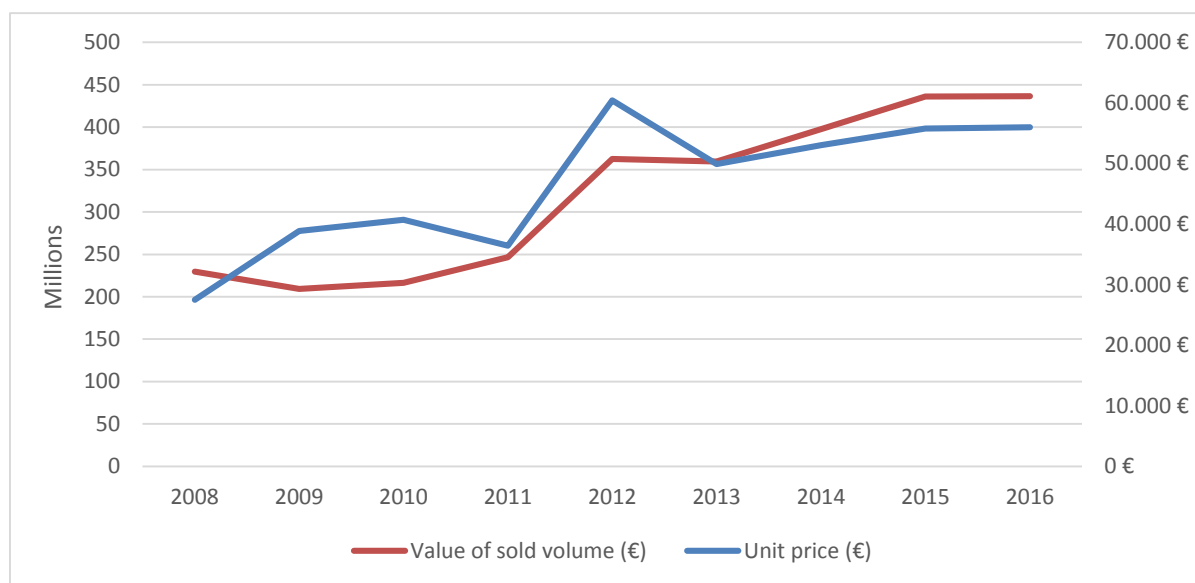
Production trends

PRODCOM data does not include the substance of hexamine or hexamethylenetetramine, as a single group. Thus, the aggregated group is taken into account as part of the analysis: “Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure” (code 21103130).

In 2016, the production volume of the substance group sold was 7.8 kt representing a value of €436.9 million. This represents a price per unit of €55,985 per ton. Conversely, in 2008 the production volume sold amounted to 8.3 kt representing a value of €229.6 million. Thus, the price per unit is €27,472 per ton.

The Figure below represents the value of the sold volume and its price per unit between 2008 and 2016. The production volume sold is not represented on the graph as the differences between value and volume are too large. Nonetheless, the volume underwent a sharp decrease between 2008 and 2009, but has been steadily increasing thereafter. Moreover, the value of the volume sold steadily increased between 2009 and 2011, sharply increased between 2011 and 2012, and steadily increased until 2016. The price per unit experienced a sharp increase in 2011, before decreasing thereafter. During this timeframe, the number of hexamine producers has decreased in the EU, which suggests an impact on the value of the volume sold, driving it upwards.

Figure 12: Hexamine - production trends



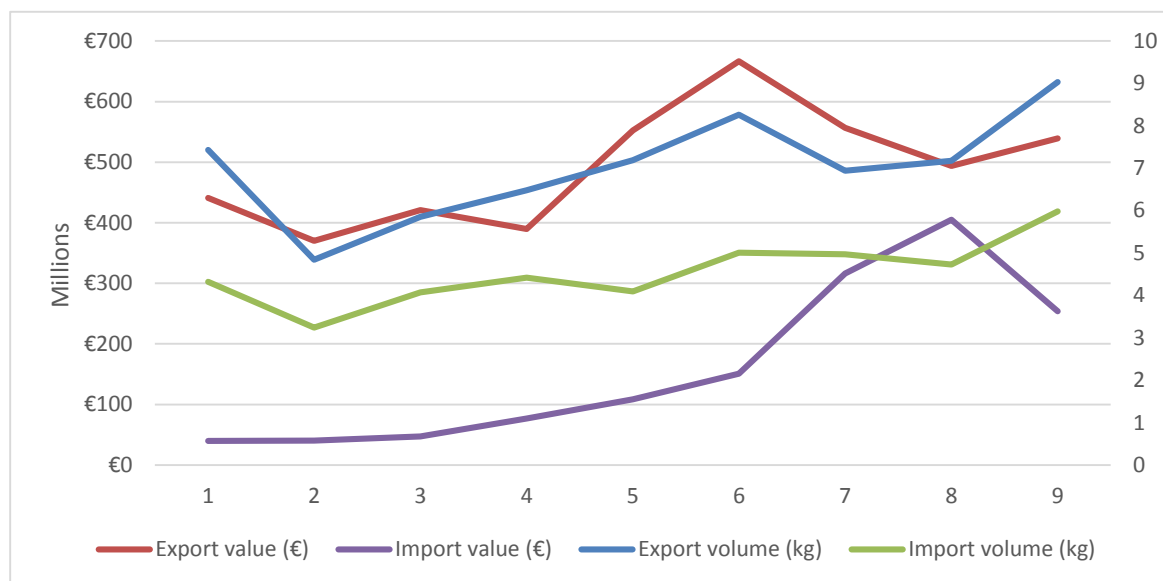
Source: PRODCOM 2018, Eurostat

Export and import

In 2016, the volume of exports amounted to 9 kt with a value of €539 million. Conversely, in 2008, the volume exported accounted for 7 kt with a value of €441 million. In terms of imports, 2016 shows that the volume imported was 5.9 kt with a value of €253.8 million. In 2008, the volume of imports amounted to 4.3 kt with a value of €39.7 million.

The figure below represents the volume and value of imports and exports between 2008 and 2011 of the EU28 towards/from extra-EU countries. Trends show that the volume of both and imports and exports have been increasing. The same is relevant for the values of imports and exports. Nonetheless, the volume of exports sharply decreased in 2009. Moreover, the value of imports sharply decreased in 2015.

Figure 13: Hexamine - Trade flows



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

The country having registered the most substance as Hexamine under REACH is the Netherlands with 3 companies in total. It is followed by Belgium (2) and Germany (2).

98% of Hexamine is used for industrial uses, notably in polymers of the plastics and rubber industry for vulcanisation³⁰⁰. Moreover, 3% of hexamine is used in the production of C-4 and RDX, well-known explosives, used for industrial and military purposes. The substance is also used in fuel tablets in a concentration of 95%³⁰¹. Finally, the substance is used in the production of anti-biotics. According to ECHA, the substance is manufactured and imported in the EEA in 10,000 to 100,000 tonnes per years.

Table 5: Hexamine - Substance uses

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At industrial site uses
• Washing & cleaning products, • Fuels • Cosmetics and personal care products	• Polymers • Antibiotics	• Adhesives and sealants • Polymers

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance via internet

³⁰⁰ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

³⁰¹ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

The collection of the number of products and retailers from a large online retailer (see Table 17) shows that Hexamine is **comparatively less available than other substances online**. Indeed, the United Kingdom returns the highest number of products at 26, as well as the highest number of retailers at 15. Italy shows that the substance is not available at all.

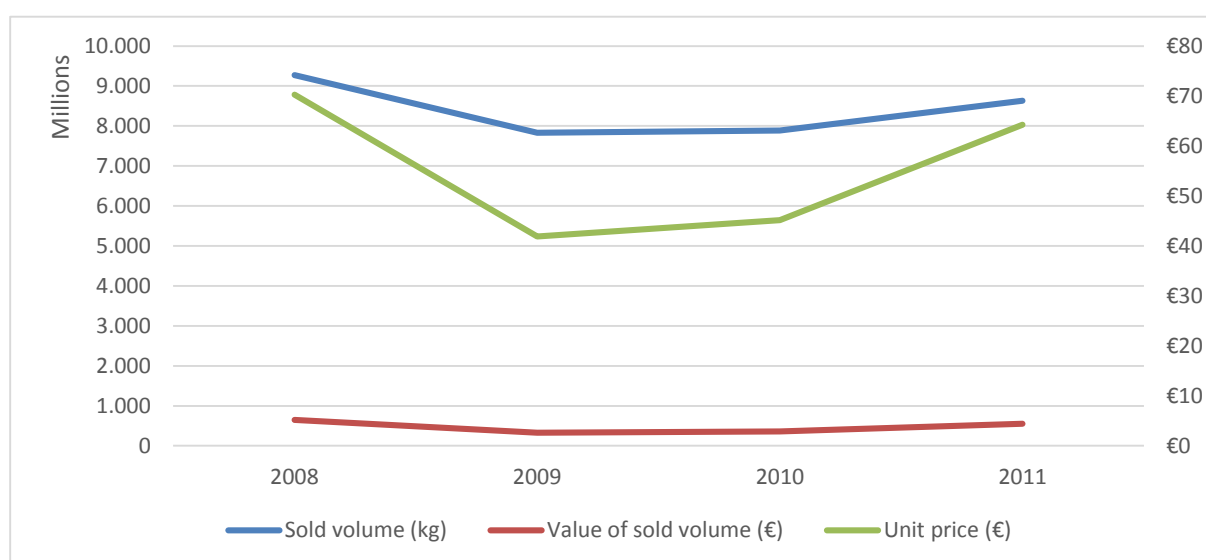
Sulphuric acid (SO₂) – Annex II substance -

Production trends

The data for sold production volume is limited in the PRODCOM database to the period of 2008 to 2011. In 2011, Member States reported that a volume of 8,631 kt were sold, representing a value of €554.6 million. Hence, the price per unit accounted for €64.2 per ton.

The Figure below shows the production trends of Sulphuric Acid between 2008 and 2011. The sold volume of Sulphuric Acid **slightly decreased** during the period considered, as well as the value of the sold volume. While the case is similar for the price per unit, the figure below shows that there was a large drop between 2008 and 2009. The timeframe suggests that this can be a consequence of the financial and economic crisis started in 2007.

Figure 14: Sulphuric Acid - production trends

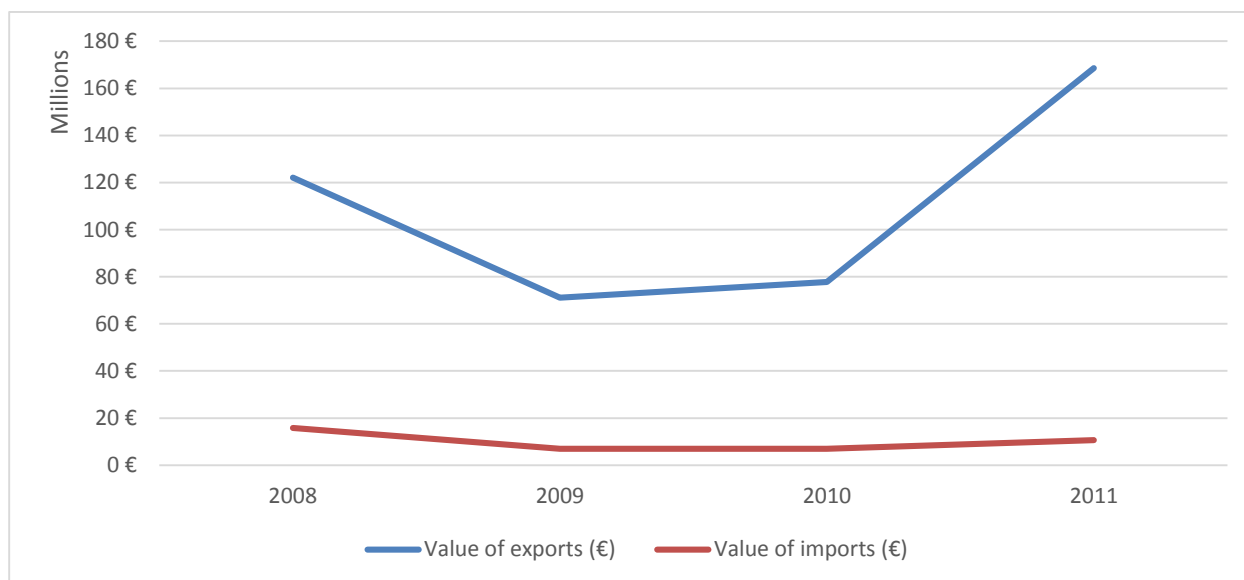


Source: PRODCOM 2018, Eurostat

Export and import

While the value of imports has remained relatively stable over time, the value of exports of Sulphuric Acid has increased during the period. Indeed, in 2008 the EU28's value of exports accounted for €122 million, increasing to €168 million in 2011. The net exports value is equal to €157.9 million in 2011.

Figure15: Sulphuric Acid - Exports and Imports



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In the case of sulphuric acid, Germany represents the largest number of companies having registered sulphuric acid under REACH, with 47 companies in total. This is followed by France (15), the Netherlands (15), Belgium (15), Italy (12), Poland (11) and the United Kingdom (10). In total, there are 178 registrants for sulphuric acid under REACH.

Sulphuric acid is widely used in the mining industry as a reagent in chemical processes and in agrochemicals, for fertilizers. Other major areas of use of the substance include washing and cleaning products, as it is **an important component in clean wash agents**. Additionally, the substance is a key component of battery acid. Household uses include **pH adjustments for swimming pools and fish tanks**³⁰².

The Table below shows the main professional and non-professional uses identified for Sulphuric Acid.

Table 6: Sulphuric Acid - Industrial, Professional and Consumer uses

Non-Professional uses	Professional uses	
Consumer uses	General professional uses	At industrial site uses
• Ph regulators and water treatment products • Metal surface treatment products • Washing & cleaning products	• Laboratory chemicals • Ph regulators and water treatment products, • Metal surface treatment products • Washing & cleaning	• Ph regulators and water treatment products • Metal surface treatment products • Non-metal-surface treatment products

³⁰² Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

Non-Professional uses	Professional uses	
• Laboratory chemicals • Non-metal-surface treatment products • Extraction agents • Fertilizer	- products • Non-metal-surface treatment products • Extraction agents • Fertilizer	• Extraction agents and • Washing & cleaning products

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance online

Comparatively, Sulphuric Acid is widely available on the analysed online retailer. Indeed, data collected from the large online retailer (see Table 17) shows that Sulphuric Acid returns a high number of products in Germany, the United Kingdom and Italy, accounting for 304, 295, and 133 respectively. However, there are no results for the substance in France and Spain. Moreover, the highest number of retailers are found on the Italian online market, with 133. Nonetheless, Germany and the United Kingdom follow closely with 131 and 116 online retailers.

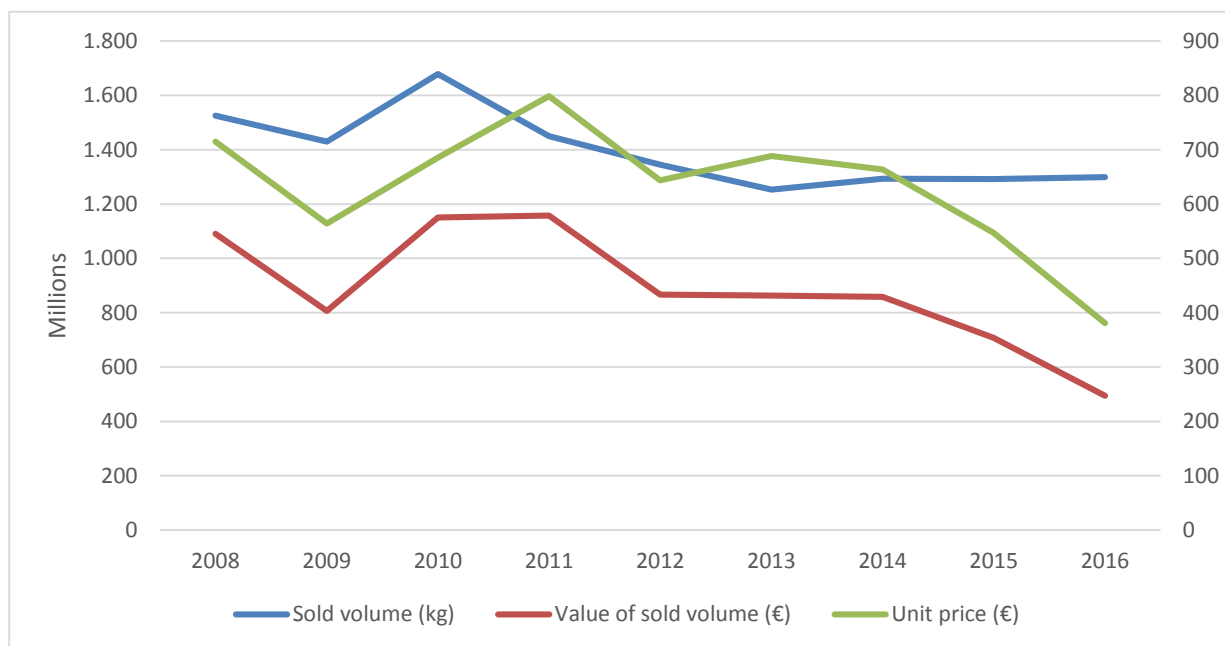
Acetone – Annex II substance -

Production trends

In 2016, the EU28 sold a volume of 1,298 kt of Acetone, which represents a value of €494 million, hence a price per unit of €380.6 per ton. In 2008, the total sold production amounted to 1,524 kt of Acetone, while the value of the sold production accounted for €1,090 million. Hence, in 2008, the price per unit was €715 per ton.

The figure below represents the production trends, including the sold volume, the value of the sold volume and the price per unit of acetone. **Both value of sold volume and price per unit have significantly decreased, while the volume of the sold production has only slightly decreased between 2008 and 2016.** Thus, the value of sold volume has decreased by more than 50 percent over the time period considered. Moreover, the price unit has decreased by more than 46 percent.

Figure 16: Acetone - production trends



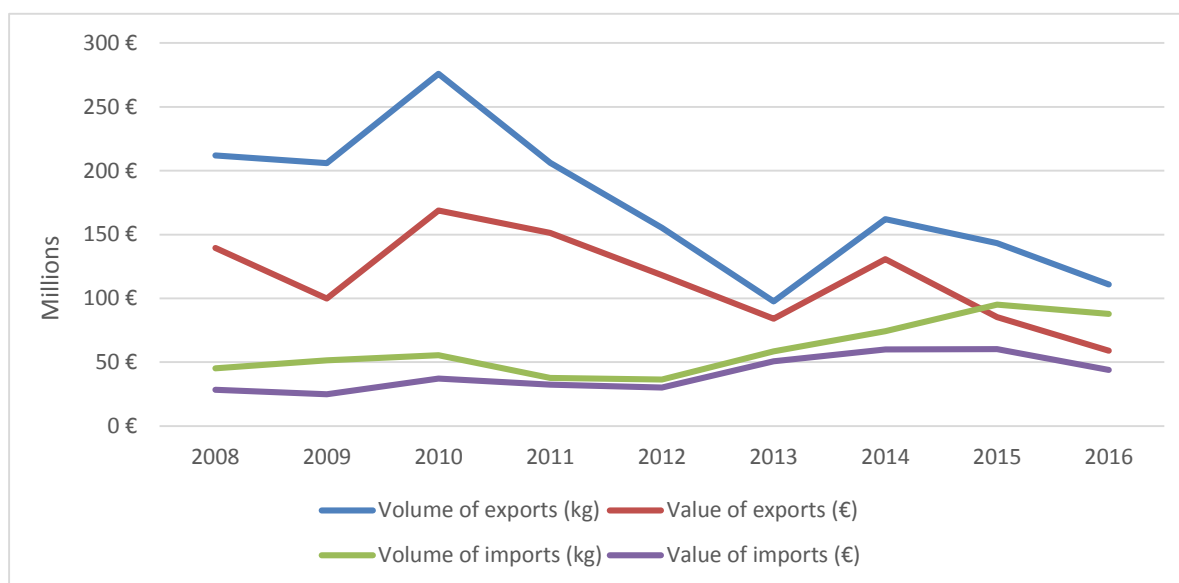
Source: PRODCOM 2018, Eurostat

Export and import

The EU28 is a net exporter of Acetone. According to PRODCOM statistics, in 2016, the EU28 had exported towards extra-EU countries, a volume of 110 kt and imported a volume of 87 kt, with values of €59 million and €43.9 million respectively. The net export quantity amounted to 23 kt, representing a net exporting value of €15.1 million (Figure).

Overall, the volume and value of exports of the substance significantly decreased from 2010 onwards. There are two significant decreases in the volume and value of exports, notably in 2010 and 2014. Conversely, the volume and value of imports of the substance have substantially increased during same period.

Figure 17: Acetone - Exports and Imports



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In total, 65 companies have registered their substance under REACH in the EU for Acetone. The largest share is represented by Germany with 19 companies. The following countries are the United Kingdom (12), the Netherlands (9), France (6), and Belgium (5).

Acetone can be found in many household products such as vehicle anti-freeze products, paints, superglue remover, nail polish, and cosmetics. The plastics industry consumes about half of the production of acetone. In particular in the manufacturing of Bisphenol A, used to make polycarbonates and epoxy resins. It is a widely used solvent.

Acetone is, according to the European Chemical Agency (ECHA) manufactured and imported in the EEA in 1,000,000 to 10,000,000 tonnes per year. **It is used by consumers, in articles, by professionals, in formulations or re-packaging, and at industrial sites.** The table below shows the main professional and non-professional uses for Acetone.

Table7: Acetone - Industrial, Professional and Consumer uses

Non-professional uses	Professional uses	
Consumers Uses	General professional uses	At industrial site uses
• Fillers, putties, plasters, modelling clay, • Finger paints, • Adhesives sealants, and	• Anti-freeze products • Coating products • Lubricants and greases • Biocides (e.g. Disinfectants, pest control products),	• Washing & cleaning products, • Laboratory chemicals, • Photo-chemicals, • Pharmaceuticals, • Cosmetics and personal care

Non-professional uses	Professional uses	
• Coating products • Non-metal-surface treatment products, • Washing & cleaning products, • Air care products, • Polishes and waxes • Welding & soldering products	• Coating products, • Polymers, • Washing & cleaning products • Laboratory chemicals • Solvents	- products • Biocides (e.g. Disinfectants, pest control products). • Extraction solvent • Chemical precursor

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the product on internet

Data collected from a large online retailer (see Table 17) shows that **Acetone is the substance with the most retailers, at 833 if all 5 regions are added.** In general, the same relative number of products are available across the different countries. Moreover, the largest number of products are available in France, accounting 308. However, the highest number of retailers are found in Italy, with 179, followed closely by Spain at 174.

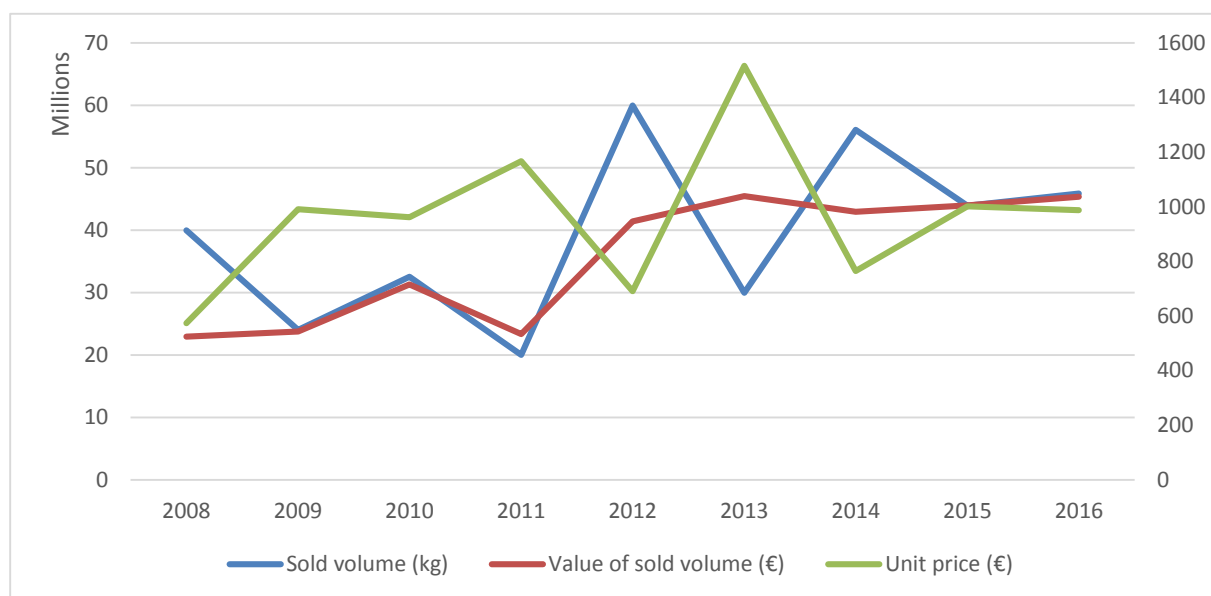
Potassium nitrate (N) – Annex II substance -

Production trends

According to PRODCOM data, the EU28 sold a volume of 45 kt of Potassium Nitrate in 2016, which represents a value of €45.3 million. Hence, the price per unit is €988.2 per ton. In 2008, the volume of the substance sold amounted to 40 kt at a value of €22.9 million. Thus, a price per unit of €573.4 per ton.

The figure below shows the trends between 2008 and 2016 for production volume sold, value, and price per unit. Overall, the data show that the volume of Potassium Nitrate sold has slightly increased during the observed period, while the value has increased substantially. Furthermore, the unit price has nearly doubled over the period considered. Patterns for volume and value of the substance sold over the period has evolved erratically.

Figure 17: Potassium nitrate –production trends



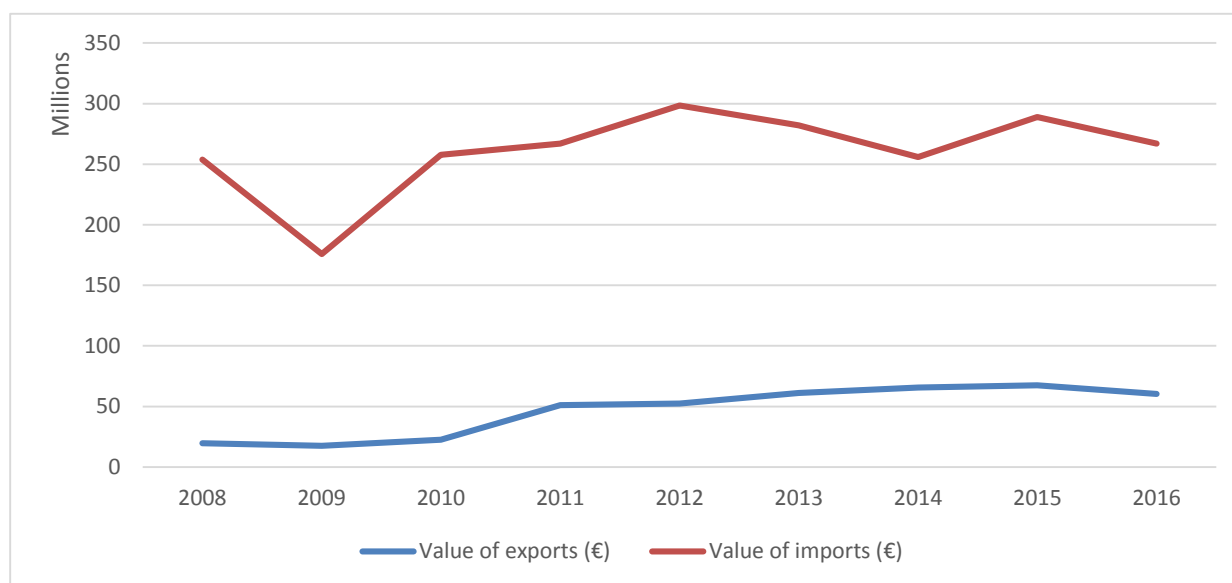
Source: PRODCOM 2018, Eurostat

Export and import

The EU28 Member States have reported that in 2016, the value of exports amounted to €60.3 million and the value of imports amounted to €266.8 million. Thus, the net export is negative amounting to €-206.5 million in 2016. Nonetheless, the net export gap has been decreasing since 2008.

The figure below shows the evolution between 2008 and 2016 of the value of exports and imports of potassium nitrate of the EU28 towards/from extra-EU countries; while the value of exports has relatively increased over the period considered, the value of imports has known a sharp drop in 2009. This suggests that the economic and financial crisis of 2008 has had an impact on the imports of the substance within the EU28.

Figure 18: Potassium nitrate - Trade flows



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In the case of potassium nitrate, there are 55 companies that have registered their substance under REACH. The largest share of these companies is represented by Germany with 9 companies in total. This is followed by Spain (8), Belgium (8), Ireland (7), and France (5).

Potassium nitrate, being part of the nitrate family **is widely used within the agrochemical industry to produce fertilisers and signal flares. Potassium Nitrate is largely used as a source of Nitrates. Household uses are limited to gardening downstream products.** Nonetheless, other uses include brake fluid in vehicles, as well as heat packs as the nitrate component of the substance is an adequate heat transfer fluid. Although the major uses of potassium nitrate are in fertilizers, other important uses include rocket propellants and fireworks. Potassium Nitrate is a key constituent of gunpowder. It is also used a food preservative. According to the European Chemical Agency, this substance is manufactured and imported in the EEA in 1,000,000 to 10,000,000 tonnes per year.

Table reports the main professional and non-professional uses of Potassium Nitrate.

Table 8: Potassium nitrate - uses

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At site industrial uses
- Fertilisers, - Water treatment chemicals, - Anti-freeze products, - Heat transfer fluids,	- Fertilisers, - Cosmetics and personal care products, - Anti-freeze products, explosives,	- Fertilisers, - Cosmetics and personal care products, - Anti-freeze products,

Non-professional uses	Professional uses	
• Hydraulic fluids • Explosives.	• Hydraulic fluids, • Washing & cleaning products • Water treatment chemicals • Fireworks, pyrotechnics • Food preservative	• Explosives, • Hydraulic fluids, washing & cleaning products, • Water treatment chemicals, • Metal surface treatment products, • Ph regulators and water treatment products • Heat transfer fluids.

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance on internet

Data collected from a large online retailer (see Table 17) shows that the United Kingdom returns the most products containing Potassium Nitrate, as well as the highest number of online retailers at 131. Conversely, the French and German markets follow with 203 and 85 products respectively. The Spanish market returns the lowest number of products, and the Italian market returns the lowest number of retailers.

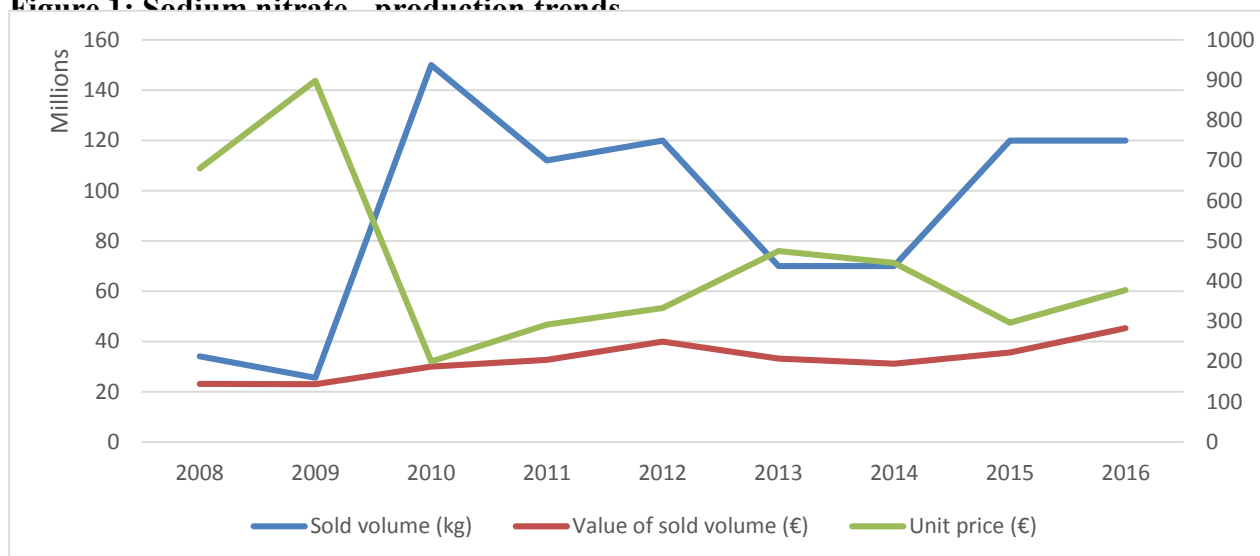
Sodium nitrate (N)- Annex II substance -

Production trends

In 2016, the EU28 has sold a volume of 120 kt of Sodium Nitrate, which amounts to a value of €45.3 million. Hence, the price per unit amounted to €378 per ton. In 2008, the total sold production was 34 kt amounting to a value of €23 million, and thus a price per unit of €680.7 per ton.

The evolution over time for the period 2008-2016 shows that while the volume sold has considerably increased, the value of this volume sold only slightly increased. Hence, the sharp drop in the price per unit. The volume of sold production displays two spikes, notably in 2009 and in 2015.

Figure 1: Sodium nitrate – production trends



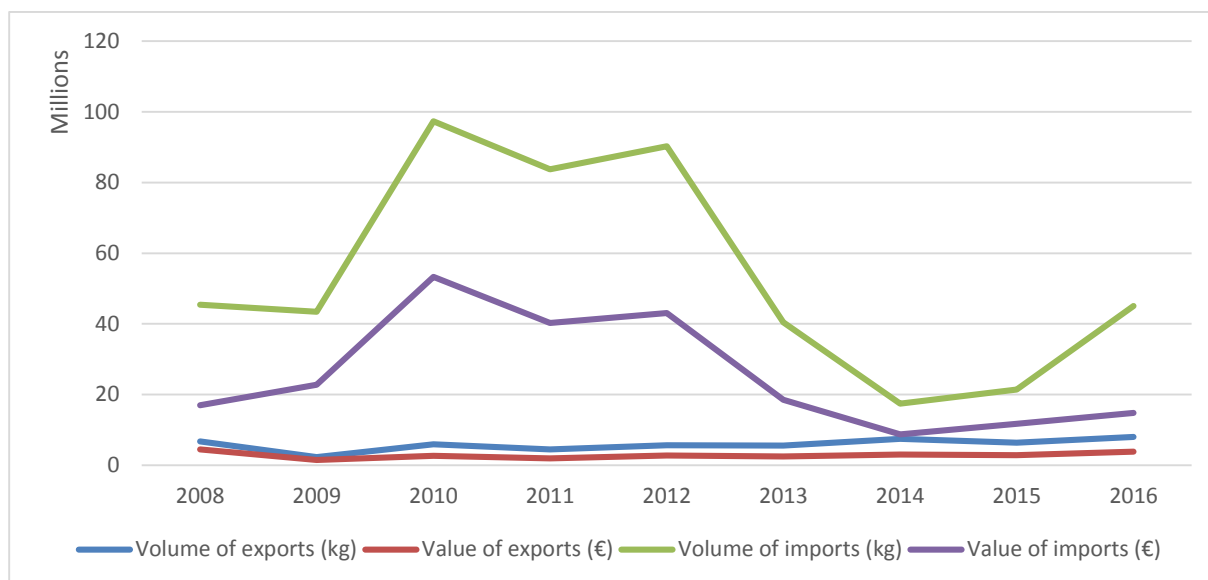
Source: PRODCOM, Eurostat 2018

Export and import

The EU28 is a net importer of Sodium Nitrate. According to data from PRODCOM, in 2016, the volume of exports of sodium nitrate amounted to 8 kt while the value of this sold production amounted to €3.7 million. Figures for imports show that the volume of imports was considerably higher at 45 kt, which was valued at €14 million. Thus, the net exports volume amount to -37 kt, for a value of -€11 million.

The figure below shows the trends over the period of 2008 to 2016 for the volume and value of imports and exports of the EU28 towards/from extra-EU countries; while only the volume of exports has increased over the period considered, all other figures have decreased. However, a considerable increase in the volume of imports in 2010 was registered, before sharply dropping between 2012 and 2014, recovering slightly until 2016. The same is relevant for the value of imports of the substance.

Figure 20: Sodium nitrate - trade flows



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

For sodium nitrate, 32 companies have registered their substance under REACH. The largest share of these companies is located in Germany (12 companies). This is followed by Belgium and the Netherlands (4 and 3 respectively). The European Chemical Agency states the substance is manufactured and imported in the EEA in 100,000 to 1,000,000 tonnes per year.

Sodium nitrate is a **widely used fertilizer for both professional and non-professional uses (ECHA, 2018)**. Other professional uses include ceramics and photovoltaic products.³⁰³ Some cases have been reported to use sodium nitrate in improvised rocket propellants.

The table below reports the main uses of Sodium Nitrate.

Table 9: Sodium nitrate - uses

Consumers uses	Professional uses	Formulation and re-packaging	Industrial site uses
- Fertilisers, - Cosmetics and personal care products, - Adhesives and sealants,	- Anti-freeze products, - Ph regulators and water treatment products, - Fertilisers,	- Fertilisers, - Adhesives and sealants, - Anti-freeze products, explosives,	- Ph regulators and water treatment products, - Metal surface treatment products, - Water treatment

³⁰³ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

• Anti-freeze products, • Hydraulic fluids, • Heat transfer fluids • Washing & cleaning products	• Water treatment chemicals, • Adhesives and sealants, • Heat transfer fluids • Hydraulic fluids.	• Metal surface treatment products, • Heat transfer fluids, • Ph regulators and water treatment products, • Water treatment chemicals • Hydraulic fluids.	- chemicals, • Heat transfer fluids, • Fertilisers, • Adhesives and sealants, • Anti-freeze products, explosives • Hydraulic fluids.
---	--	---	---

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance on internet

Collection of data from a large online retailer (see Table 17) shows that products linked to Sodium Nitrate are available in great numbers solely in the United Kingdom, with 292 products on sale and 111 different retailers. The Spanish online market does not return any results for the product, while results are relatively low in Germany, France and Italy.

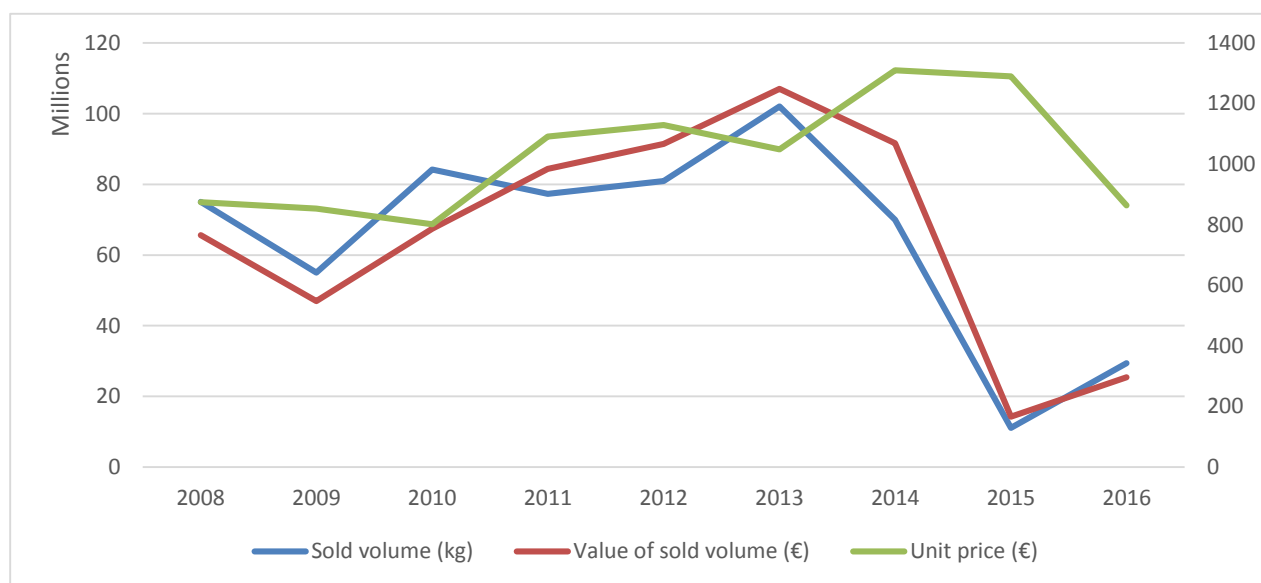
Calcium nitrate (N)- Annex II substance -

Production trends

In 2016, the EU28 sold a volume of 29.4 kt of Calcium Nitrate, which was valued at €25.3 million. In 2008, the substance's sold volume amounted to 75 kt, accounting for a value of €65.6 million.

The figure below shows the production trends of Calcium Nitrate between 2008 and 2016. Both, the volume sold and value of volume sold has gradually increased until 2013 before sharply decreasing until 2015. Since 2015, the volume sold has increased. The price per ton has gradually increased until 2015, before sharply decreasing in 2016.

Figure 21: Calcium nitrate - production trends



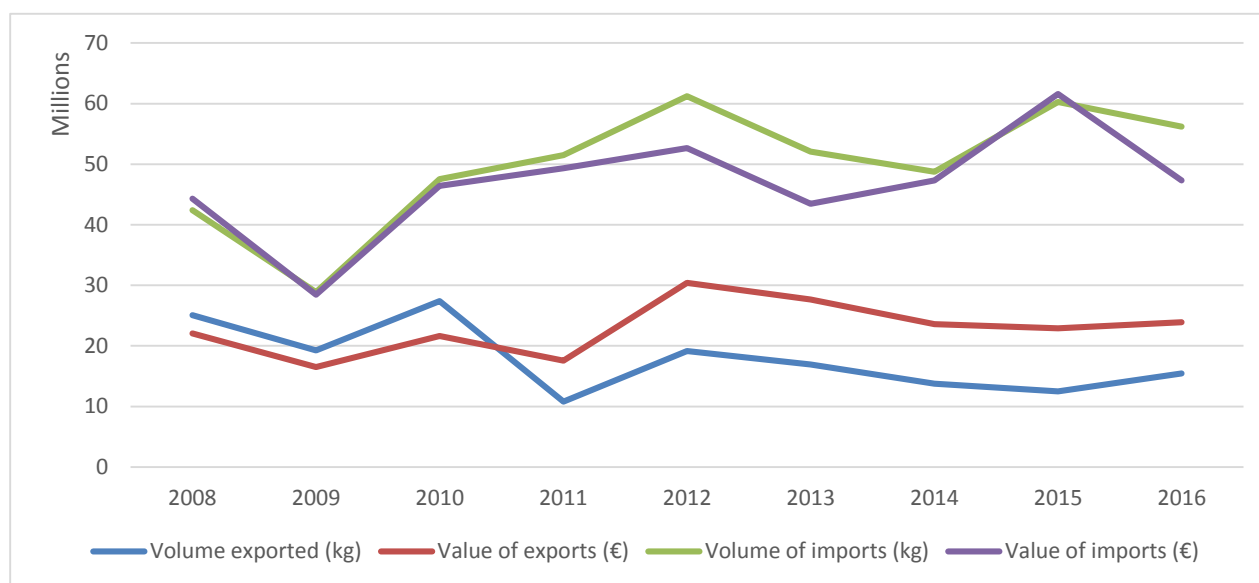
Source: PRODCOM, Eurostat 2018

Export and import

The EU28 exported in 2016 a volume of calcium nitrate equivalent to 15.4 kt, at a value of €23.8 million. Moreover, the volume of imports of the substance amounted to 56.2.8 kt at a value of €47.3 million.

The figure below shows the period between 2008 and 2016 in terms of export and import volume and value of the EU28 towards/from extra-EU countries. The trends display that imports have been increasing while exports have been decreasing. Indeed, the volume of exports has been gradually decreasing during the period, with a sharp decrease to be noted in 2011. However, the value of these has gradually increased. The volume of imports has substantially increased during the period, while its value has only slightly increased.

Figure 22: Calcium nitrate - trade flows



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In total, there are 39 companies that have registered their substance under REACH. Germany represents the largest share of these companies with 11 registrants. Spain and Poland follow with 6 and 4 companies respectively. The European Chemical Agency states that calcium nitrate is manufactured and imported in the EEA in 100,000 to 1,000,000 tonnes per year.

The majority of calcium nitrate is used for fertilising purposes both for professional and non-professional uses. Some household uses include home experiments, in extremely small quantities, as well as in makeup for cosmetics.

Table 10: Calcium nitrate - uses

Non-professional uses	Professional uses	
Consumers uses	General professional uses	At industrial site uses
• Anti-freeze products, • Fertilisers, • Cosmetics and personal care products, • Washing & cleaning products, • Water treatment chemicals, • Ph regulators and water treatment products,	• Anti-freeze products, • Ph regulators and water treatment products, • Fertilisers, • Washing & cleaning products, • Laboratory chemicals, • Metal surface treatment products	• Ph regulators and water treatment products, • Coating products, • Metal surface treatment products, • Heat transfer fluids, • Textile treatment products and • Dyes,

Non-professional uses	Professional uses	
• Adhesives and sealants, • Coating products, • Metal surface treatment products, • Non-metal-surface treatment products • Metal working fluids	• Heat transfer fluids	• Water treatment chemicals, • Laboratory chemicals • Anti-freeze products

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance on internet

Data extracted from a large online retailer shows (see Table 17) that products containing or related to Calcium Nitrate is widely available in the United Kingdom. In comparison, the other markets show lower availability of products involved with the substance. Indeed, France follows with 81 products and 42 retailers, while Germany is last with only 1 product and retailer.

Calcium Ammonium Nitrate (CAN)

Production trends

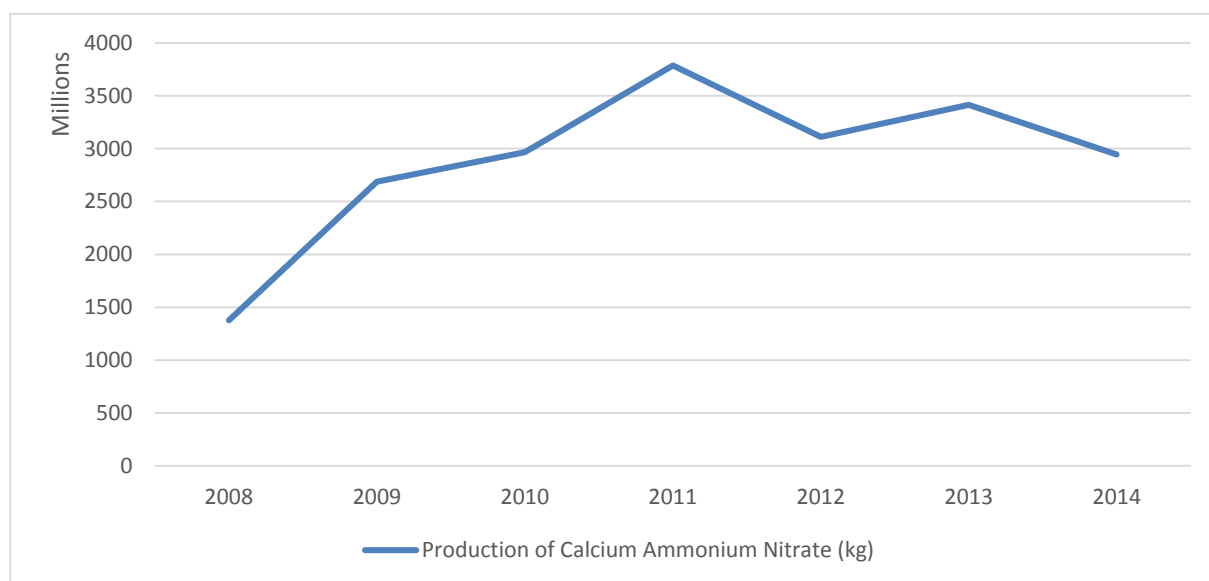
In the case of Calcium Ammonium Nitrate (CAN), PRODCOM data is not available at the necessary granularity. However, the database from the Food and Agricultural Organization of the United Nations (FAOSTAT) offers such data for CAN. Nonetheless, the analysis is restricted to the quantity produced, as there is no value for the sold production. Thus, the substance analysis will slightly differ from other substances.

In 2014, the EU28 reported to FAOSTAT to have produced 2,945 kt of Calcium ammonium nitrate. This represents a substantial increase since 2008, which only accounted for 1,376 kt. Production of the substance has been substantially increasing over the past years. The figure below shows the production trends between the period of 2008 and 2016.

According to one analysis, the CAN market was valued at US\$3,056 million in 2013, growing at 2.7% annually, and expected to be worth US\$3,488 million by the end of 2018, with the the EU is the largest producer of the substance in the world.³⁰⁴

³⁰⁴ Socio-economic analysis, Grupa Azoty S.A., retrieved from: https://echa.europa.eu/documents/10162/18584504/afa_tce-0021-01-sea_en.pdf/b151ff10-60f5-4f3f-94a7-38833cc93d05

Figure 23: Production trends - Calcium Ammonium Nitrate

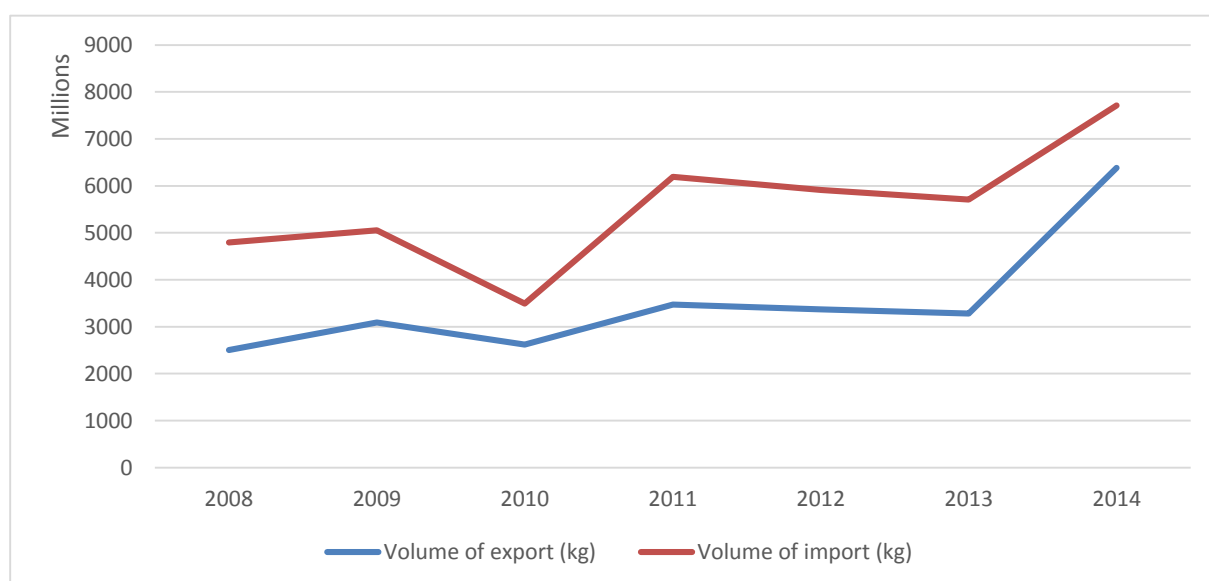


Source: FAOSTAT 2018

Export and import

In 2016, the volume of exports amounted to 6.382 kt in the EU28 for the substance, according to FAOSTAT statistics. Conversely, the amount of exports in 2008 only amounted to 2504 kt, which shows that there has been a substantial increase in the number of exports over the past few years. Moreover, the volume of imports amount to 7715 kt in 2016, while in 2008 this number only amounted to 4793 kt. Thus, imports have increased considerably during the period between 2008 and 2014. The figure below shows the trend in the volumes of exports and imports between 2008 and 2014, of the EU28 towards/from extra-EU countries.

Figure 24: Calcium Ammonium Nitrate - Trade flows



Source: FAOSTAT 2018

Supply chain: Market concentration and uses

In total, the ECHA registrants list shows that there are 20 companies in Europe producing Calcium Ammonium Nitrate. However, it must be noted that the ECHA website lists the substance under the name “Nitric Acid, Ammonium Calcium Salt”, another the name for the substance. The countries with the largest shares of companies registered for the substance are Germany and Ireland, with 4 each. Moreover, Belgium and Romania follow with 2 companies each.

CAN is registered under REACH for manufacturing and importing at 1,000,000 to 10,000,000 tonnes per year. ECHA reports that the main **household purposes of the substance occur mostly in the case of indoor use in machine wash liquids and detergents, automotive care products, paints and adhesives, air fresheners and fragrances. Its main outdoor use for household is mostly in fertilisers and gardening products.**

Table 11: Calcium Ammonium Nitrate - uses

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At site industrial uses
• Anti-free products • Fertilisers • Cosmetics and personal care products • Coating products • Water Treatment chemicals	• Fertilisers • pH regulators and water treatment products • Anti-freeze products • Coating products • Heat transfer fluids • Water treatment chemicals • Explosives • Metal surface treatment products • Washing & cleaning products	• pH regulators and water treatment products • Coating products • Anti-freeze products • Metal surface treatment products • Explosives • Heat transfer fluids • Water treatment chemicals

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance on internet

Data extracted from a large online retailer shows (see Table 17) that Calcium Ammonium Nitrate is the least available substance. Indeed, the United Kingdom is the only country returning results, notably 28 products, and 12 retailers. All other countries did not return any results.

Ammonium nitrate (N) – Annex II substance -

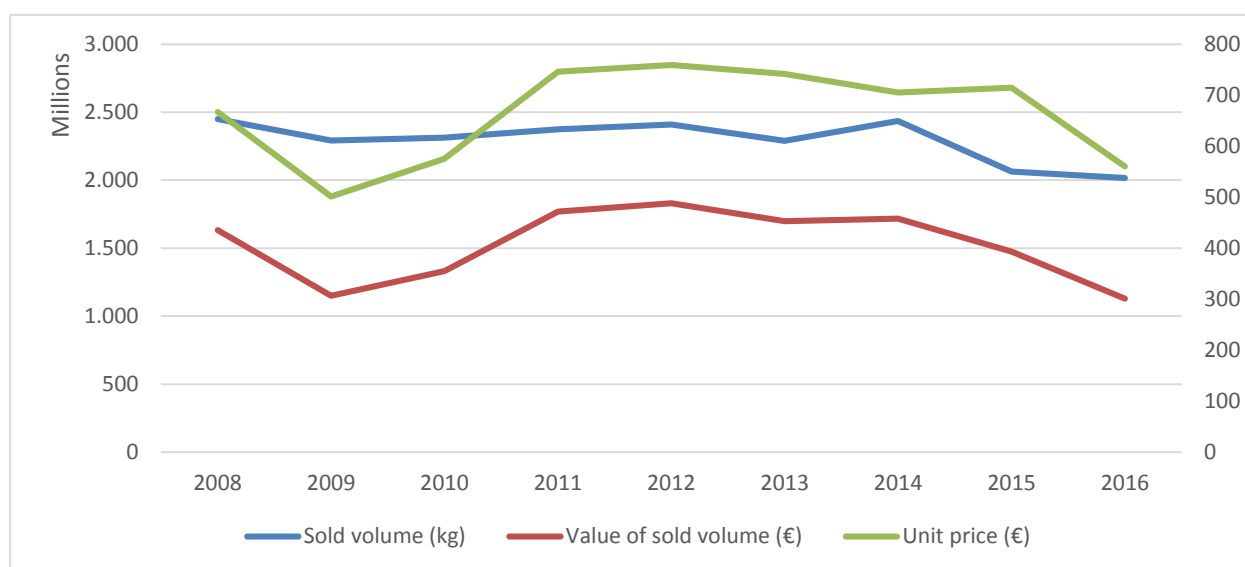
Production trends

In 2016, the EU28 sold a volume of 2,015 kt of Ammonium Nitrate, which represents a value of €1,129 million. Hence, the price per unit for that year amounts to €560.1 per ton. Back in 2008, the sold volume accounted for 2,448 kt at a value of €1,633 million. This represents a price per unit for the substance of €666.9 per ton.

The figure below shows the evolution between 2008 and 2016 of the production trends of ammonium nitrate. Overall, the figures have slightly decreased, however, the value of the volume sold increased substantially between 2009 and 2011, which consequently affected the price per unit accordingly. Nonetheless, **there was a notable decrease for all production figures after 2014.**

The production cost of ammonium nitrate is reported to be **particularly sensitive to the global prices for energy**³⁰⁵. Moreover, a report of 2015 anticipated that **due to growth in urea consumption, the substance is projected to lose market share during 2012-2017**³⁰⁶.

Figure 25: Ammonium nitrate - production trends



Source: PRODCOM, Eurostat 2018

Export and import

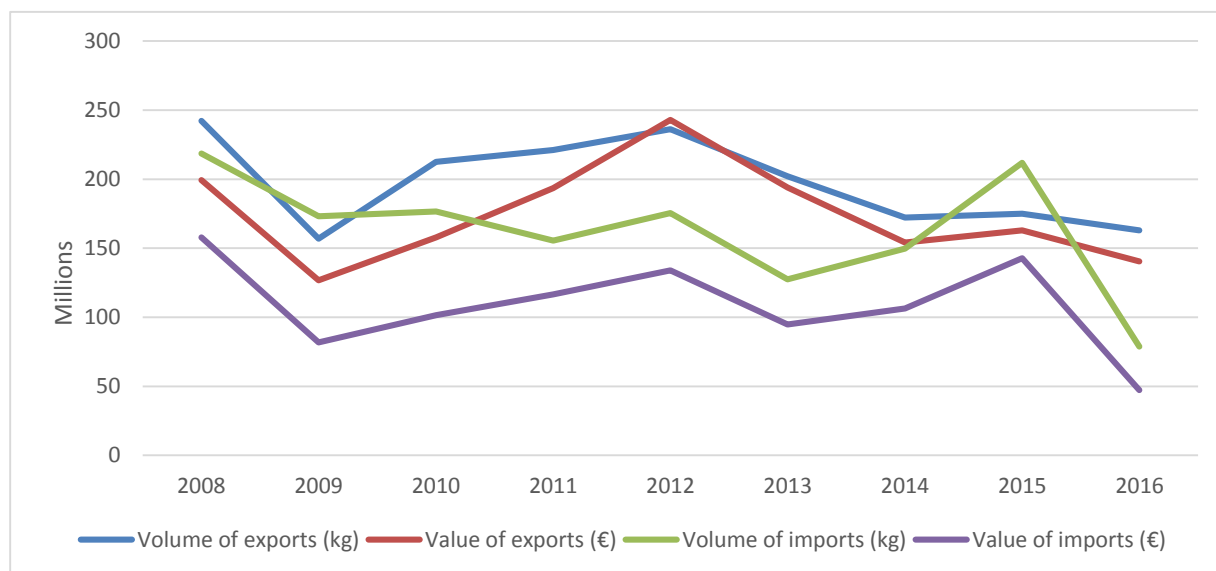
According to PRODCOM statistics, the EU28 Member States have reported decreasing figures for the volume and value of both exports and imports between 2008 and 2016, of the EU28 towards/from extra-EU countries, as represented in the figure below. Indeed, in 2016, the volume and value of exports accounted for 162.8 kt and €140.4 million respectively. Moreover, the volume and value of imports represented 78.7 kt and €47.2 million respectively. The volume and value of net exports amounts to 84 kt and €93.1, respectively.

³⁰⁵ Study commissioned by DG GROW, Cumulative Cost Assessment for the EU Chemical Industry, 2016.

³⁰⁶ Briefing on Ammonium Nitrate below, ENCO FR, 2015, restricted.

The financial and economic crisis of 2008 seems to have impacted these figures in 2009, and 2012-2013 for imports. Overall, imports and exports trends seem to remain stable for the considered period, with the exception of a sharp decrease in the volume and value of imports in 2016. Trends suggest to be linked with a cyclic downturn, as well as energy prices and substitute for an alternative energy supplier.

Figure 26: Ammonium nitrate - trade flows



Source: PRODCOM 2018, Eurostat

Supply chain: Market concentration and uses

In total, there are **105 companies** that have registered their substance under REACH for Ammonium Nitrate. The largest share of companies is located in Germany with 24 companies. The following countries in terms of the number of registrants are Belgium, the United Kingdom, and France with 8 each. In the case of ammonium nitrate, there are 26 countries in which are located companies that have registered the substance. According to ECHA, this substance is manufactured and imported in the EEA in 10,000,000 to 100,000,000 tonnes per year, respectively.

Ammonium nitrate is mostly **widely used as a fertiliser in the EU**, whether they be for **consumer or professional usage**. Further consumer uses of the substance include explosives, adhesives and sealants. Regarding professional uses of the substance, ECHA includes explosives, water treatment chemicals, adhesives and sealants, coating products, washing & cleaning products and metal surface treatment. The substance is also said to be used in instant cold packs, notably for its heat absorbing characteristics³⁰⁷.

The table below shows the main professional and non-professional uses of the substance.

Table 12: Ammonium nitrate - uses

³⁰⁷ Preparatory study for an impact assessment on restrictions to explosives precursors, 2010, not published.

Non-professional uses	Professional uses	
Consumer uses	General professional uses	At site industrial uses
• Fertilisers, • Explosives • Adhesives and sealants.	• Fertilisers, • Explosives • Water treatment chemicals.	• Explosives, • Water treatment chemicals, • Adhesives and sealants, • Coating products, • Washing & cleaning products • Metal surface treatment products.

Source: European Chemical Agency (ECHA), Substance information, 2018

Availability of the substance on internet

According to data extracted from a large online retailer in 5 distinct serviced countries (see Table 17), Ammonium Nitrate returns the highest number of products in France, followed closely by the United Kingdom, at 306 and 302 products respectively. The lowest amount of returns arises in the Spanish market, with 4 products. Moreover, France and the United Kingdom also show the highest number of different retailers, with 76 and 68 respectively.

The potential market affected by the regulation

The following tables report key statistics on the number of companies, the number of employees and the industry turnover. They were created by linking the uses and their respective NACE codes, to inform the rest of this analysis on the potential market affected by the regulation and subsequent changes.

It must be noted that these figures are collected at EU28 level suffer from limitations due to rounding up errors of national confidential data, which can be determined sometimes through a high error margin. Another limitation can be linked to missing NACE codes for some uses, or to too-aggregated NACE codes taken as reference.

Each table reports the main uses identified for both professional and non-professional uses, and segments the structural business statistics by **actor of the value chain (retailers, wholesalers, producers)**. The number of retailers and wholesalers are listed under the G NACE code (Rev. 2), while the number of producers is limited to the C NACE code (Rev. 2). These NACE codes regroup the identified economic activities linked with the uses of substances for each annexes. Thus, one economic activity for Annex I may regroup several uses, as well as several substances.

Retailers

The NACE code displaying the highest number of enterprises is G4778 (“Other retail sale of new goods in specialised stores”). This largely encompasses all uses of the substances listed

under Annex I. Nonetheless, the NACE code G4719 (“Other retail sale in non-specialised stores”) accounts for the largest share of the turnover and number of employees.

G4776 (“Retail sale of flowers, plants, seeds, fertilizers, pet animals and pet food in specialised stores”) accounts for the highest turnover and number of employees for the identified uses of substances specific to Annex II, at €36,075.9 million and 322,926 employees. The number of enterprises is the highest under G4789 (“Retail sale via stalls and markets of other goods”) accounting for 138,050.

Table 13: Retailers potentially affected by the regulation throughout the supply chain

Annex I/II	NACE codes	Retail, NACE description	Number of enterprises	Turnover (million euros)	Number of employees
Annex I	G4719	Other retail sale in non-specialised stores	140,026	150,000	1,000,000
Annex I	G4778	Other retail sale of new goods in specialised stores	253,353	88,514	598,841
Annex I	G473	Retail sale of automotive fuel in specialised stores	62,209	[confidential]	[confidential]
Annex I	G4775	Retail sale of cosmetic and toilet articles in specialised stores	46,144	50,481.3	385,298
Annex I	G4774	Retail sale of medical and orthopaedic goods in specialised stores	24,550	17,154.5	144,977
Annex I	G4791	Retail sale via mail order houses or via internet	187,260	139,435.5	401,317
Annex II	G4776	Retail sale of flowers, plants, seeds, fertilisers, pet animals and pet food in specialised stores	132,116	36,075.9	322,926
Annex II	G4789	Retail sale via stalls and markets of	138,050	3,804.6	23,865

		other goods			
TOTAL			587,542 (Annex I), 270,166 (Annex II)		

Source: Eurostat, 2018

Wholesalers

NACE code G464 (“Wholesale of other household goods”) represents the largest number of employees, at 2,131,845 employees, as well as the highest turnover, at €1,100,100 million and number of enterprises, at 317,294. Code G4671 (“Wholesale of solid, liquid and gaseous fuels and related products”) also displays a high turnover, €984,164.2, concentrated around a lower number of companies 41,768.

Table 14: Wholesalers potentially affected by the regulation throughout the supply chain

Annex I/II	NACE code	Wholesaler, NACE description	Number of enterprises	Turnover (million euros)	Number of employees
Annex I	G4619	Agents involved in the sale of a variety of goods	173,128	51,140.3	122,250
Annex I	G4618	Agents specialised in the sale of other particular products	136,963	29,395.7	111,273
Annex I	G4675	Wholesale of chemical products	27,561	171,548.1	200,950
Annex I	G4644	Wholesale of china and glassware cleaning materials	15,928	39,671.1	81,806
Annex I	G464	Wholesale of other household goods	317,294	1,100,000	2,131,845
Annex I	G4646	Wholesale of pharmaceutical goods	41,768	452,933.3	630,064
Annex I	G4671	Wholesale of solid, liquid and gaseous fuels and related products	22,563	984,164.2	185,364
Annex II	G4611	Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods	17,008	9,179.5	18,826

Annex II	G4615	Agents involved in the sale of furniture, household goods, hardware and ironmongery	40,239	5,951.5	21,340
Annex II	G4618	Agents specialised in the sale of other particular products	136,963	29,395.7	111,273
Annex II	G4645	Wholesale of perfume and cosmetics	22,917	60,959.7	175,360

Source: Eurostat, 2018

Manufacturers

It should be noted that previous sections have reported the number of manufacturers of the substances identified on the ECHA website. Differently, in this exercise, the figures are referred to the NACE codes linked with the uses of the substances of both annexes.

The two NACE codes associated with the largest European markets are those of soaps & detergents (C2041) and those of perfumes and toilet preparations (C2042). Both markets are for a large part in European companies aggregated under the “personal care” denomination. This represents the largest chemical manufacturing market of Europe as identified through a study by³⁰⁸.

Table15: Manufacturers potentially affected by the regulation throughout the supply chain

Annex I/II	NACE code	Producer, NACE description	Number of enterprises	Turnover (million euros)	Number of employees
Annex I	C2110	Manufacture of basic pharmaceutical products	[confidential]	22,151.9	59,184
Annex I	C2051	Manufacture of explosives	533	2,747.7	15,983
Annex I	C2059	Manufacture of other chemical products	4,486	60,355	128,145

³⁰⁸ Study commissioned by DG GROW, Cumulative Cost Assessment for the EU Chemical Industry, 2016.

Annex I	C2013	Manufacture of other inorganic basic chemicals	1,030	25,070.2	53,665
Annex I	C2399	Manufacture of other non-metallic mineral products	2,961	21,670.7	70,754
Annex I	C2020	Manufacture of pesticides and other agrochemical products	626	10,745.5	29,134
Annex I	C3299	Other manufacturing n.e.c.	28,015	15,508.9	[confidential]
Annex II	C2015	Manufacture of fertilisers and nitrogen compounds	1,336	25,358.1	57,088
Annex II	C2041	Manufacture of soap and detergents, cleaning and polishing preparations	4,000	30,072.2	95,338
Annex II	C2042	Manufacture of perfumes and toilet preparations	5,513	42,671.3	149,360

Source: Eurostat, 2018

Estimation of the market for non-professional users

The **estimation of the market for non-professional users** of the substances in Annex I and II, requires the collection of **industry-specific data** for the main uses of the substances. These data are generally **not publicly available**, or they are only upon request. Trade associations are expected to be the main data holders for such detailed data. Despite it was not possible to gather updated specific data by use, the detailed share estimations carried out for a similar exercise in the Impact Assessment 2010 were considered as a baseline for the updated estimation of the production shares sold to non-professional uses at substance level. The estimates presented are the result of a substance-by-substance review carried out through expert consultation.

Together with the share estimation, Table 16 reports PRODCOM data on the market size (volume of sold production, and value of sold production) for the available base chemicals for

the year 2008 and 2016. 2008 has been chosen as a comparator year as it was the last year available when the IA2010 was carried out, and because it constitutes a long-enough time period to observe potential changes co-caused by the Regulation 98/2013. Next to the market trends, the estimated shares sold to the general public (value and volume) are presented at substance level.

Table 16: Estimated proportion of volume and value sold to the general public for substances listed in Regulation 98/2013

Annex I/ Annex II	Base chemical precursor	Volume of sold production (kg) (Prodcom, 2008)	Volume of sold production (kg) (Prodcom, 2016) Red = < 2008 Green = > 2008	Value of sold production (€) (Prodcom, 2008)	Value of sold production (€) (Prodcom, 2016) Red = < 2008 Green = > 2008	Estimated proportion sold to general public (non-professional user) (2016)	Estimates sold production sold to the general public (kg) (2016)		Estimated sold value to the general public (€) (2016)	
							Minimum	Maximum	Minimum	Maximum
2	Ammonium nitrate, excl. CAN	2,448,411,210	2,015,844,477	1,633,019,014	1,129,129,525	1-5%	20,158,444	100,792,224	11,291,295	56,456,576
2	Sodium Nitrate	34,077,131	120,000,000	23,196,677	45,368,190	1-5%	1,200,000	6,000,000	453,682	2,268,409
2	Potassium Nitrate	40,000,077	45,893,159	22,937,435	45,353,137	1-5%	458,932	2,294,658	453,531	2,267,656
2	Calcium Nitrate	75,053,960	29,400,390	65,636,545	25,393,271	0.5%-1%	147,002	294,004	126,966	253,932
1	Hydrogen peroxide	1,179,498,501	1,128,086,977	487,199,186	604,488,012	1-2%	11,280,869	22,561,739	6,044,880	12,089,760
2	Acetone	1,524,990,933	1,298,648,993	1,090,577,479	494,370,527	5-10%	64,932,449	129,864,899	24,718,526	49,437,052
1	Nitromethane	68,387,049	67,513,700	57,000,000	43,884,604	0% (approx.)	N.a	N.a	N.a	N.a
2	Hexamine	8,358,420	7,800,000	229,626,462	436,690,075	0% (approx.)	N.a	N.a	N.a	N.a

1	Nitric acid	922,738,378	1,094,070,006	331,342,737	346,980,694	0.5%-1%	5,470,350	10,940,700	1,734,903	3,469,806
2	Sulphuric acid ³⁰⁹	9,267,876,586	8,631,731,350	651,001,848	554,682,957	0.5%-1%%	43,158,656	86,317,313	2,773,414	5,546,829
1	Chlorates and perchlorates	539,429,360	600,000,000	264,970,135	300,000,000	<i>N.a. estimated very low (only pyrotechnics)</i>				
2	Calcium Ammonium Nitrate	No data for this chemical are available on Prodcom				<i>n/a</i>				

³⁰⁹ Based on figures for 2008-2011 only.

The following considerations can contextualise the estimates reported:

- For many substances a high share of the production concerns captive use (own use by the industry) thus it is absorbed during the process,
- Shares for consumer use, considering the total market for the substance, are generally low, thus, when the aim is to consider the effect of potential changes due to the review of the legislation, it is important to focus on absolute numbers, and to reason in terms of availability of alternative to which producers may want to shift in case of a policy change.
- Shares are not always the most important marker as in fact, in case of some substances, like acids, small shares of the volume are more effective than for other families of substances. Thus, not only the shares but especially the uses should be a reference unit to understand potential market shifts.

In terms of shares of production sold to the general public, shares around **1% to 3-5%**, depending on the specific country and market segment, are in line with the expectations for most of the substances, if one considers the **totality of the substance produced**. When looking at specific uses (e.g. bleaching agent, racing car fuel, personal-care products) or specific concentrations, higher shares should be accounted for. For example, according to the IA 2010, 0.5% of the total Nitric Acid sold production is estimated to be sold to the general public, out of this small share, approximately 80% of Nitric Acid is used as domestic solvent or household detergent. The expert consultation suggested that these specific shares by use (e.g. the 80% of Nitric acid as household detergent) should not have changed substantially within the period under observation (2008-2016).

Regarding the **Nitrates family (Annex II)**, it must be noted that Nitrates are not corrosive and are largely used by consumers as fertilizers at home, in the garden or to grow fruits and vegetables. So, Nitrates are indeed largely used by non-professional users, and the use is even more visible as excess quantities are often used by consumers due to a lack of expertise on best practices in the use of fertilisers. **Ammonium Nitrate** is amongst the **most used fertilisers today**, and it shows the highest estimated value sold to the general public in 2016, in absolute terms (€56.4 million). However, **its overall sold production and related value has shrunk during the period observed**. The expert review suggested that it has increasingly been substituted by Urea or Potassium nitrate, which has a lower price per unit comparatively. The existence of a substitution effect between substances of the same family, and the existence of substitutes for some of these substances (Ammonium Nitrate) with safer alternatives, suggests that the **Nitrates family can be subject to quite an important volatility in terms of reaction to policy changes**; in case for example, of additional requirement for registration. This in turn is deemed to affect the total volumes accessible by non-professional users too, as a consequence of a shrink of the market or a substitution effect.

Acetone (Annex II) is another important substance for non-professional uses. Because of its multiple uses in consumer products, it displays the **highest estimated proportion sold to the general public (5-10% according to expert consultation), with the the highest potential volume sold to the general public as a consequence (129.8 kt)**. Its market behaviour registered a substantial decrease in the unit price and value in the recent years, however not followed by an equally important decrease in volume sold. This suggests that,

when sold as substance for non-professional legitimate uses, the substance is available at cheaper prices. It would be extremely difficult to estimate how the price decrease of Acetone has affected the final price of products and mixtures containing Acetone as one of the active substances, thus if so has had an impact on related non-professional users markets.

In the case of **Hydrogen peroxide (Annex I)**, a number of different uses at different concentrations can be listed. The Impact Assessment 2010, based on reports from the SCP, estimated 30% of the uses of Hydrogen peroxide to be captive use, thus, own consumption in chemical industry. The remaining consumption (70% of the total) indicates uses in pulp and bleaching (50%), textile bleaching and manufacturing of chemical products, and water treatment (2.5% each). High shares of non-professional users sold production can be found for household cleaning products, households textile bleaching products (around 50-80% for high concentrations), which represent all together less than 5% of the total market for the substance. **Based on these assumptions, it can be roughly estimated that between 1% and 2% of the total production is going to the general public.**

With respect to **substances with estimated low or insignificant shares** of sold production to non-professional users the following considerations can be done:

- In the case of Chlorates and Perchlorates (Annex I), only a very limited market for specialist products (non-professional) seems to exist, and that the main household use of the substances are limited to its inclusion into pyrotechnical artefacts. Hence, this results in the very low estimated percentage to household consumption.
- Nitromethane (Annex I) is very limited in terms of household use, namely in the case of rocket propellant and fuel composites. Thus, it was estimated to have a considerably low percentage of household use.
- Hexamine (Annex II) is mainly used for military purposes, with little to no implication in general public use.
- Acids (Nitric Acid, Sulphuric Acid, Hydrochloric Acid) (Annex I and II) are corrosive substances that are used in some detergent and often used as an active ingredient for pipe cleaners. A small concentration is effective and therefore a small shares of the volumes is used in consumer users.

Limitations of the market analysis:

The development of the market analysis has been restricted by important data availability limitations, as well as data aggregation bottlenecks. For example, certain substances do not have specific PRODCOM codes, and are aggregated into larger substance groups. This flaws the analysis of trends for those particular substances. For example, chlorates and perchlorates – which regroup potassium chlorate, potassium perchlorate, sodium chlorate, sodium perchlorate – are aggregated within a larger PRODCOM code that comprise bromates and perbromates, iodates and periodates as well. Moreover, as aforementioned, bromates and iodates are subject to environmental scrutiny, which might impact the trends of the other aggregated substances.

The table below shows a summary of the data availability and available aggregation at substance level through official statistics.

Table 17: Estimated EU market size of the Chemical precursors listed in Annex I and II of Regulation (EU) 98/2013

Name of the substance	Prodcom Code	Data availability/notes	Number of Annex of Regulation (EU) 98/2013
Hydrogen Peroxide	20136300		1
Nitromethane	-	No data available in PRODCOM for the substance	1
Nitric Acid	20151050		1
Potassium Chlorate	20133250	The four following substances are listed under the same code in PRODCOM as : “Chlorates and perchlorates; bromates and perbromates; iodates and periodates”	1
Potassium Perchlorate	20133250		1
Sodium Chlorate	20133250		1
Sodium Perchlorate	20133250		1
Chlorates and perchlorates; bromates and perbromates; iodates and periodates	20133250		(1)
Hexamine	-	No data available in PRODCOM for the substance	2
Sulphuric Acid	20132433	No data available for 2016; Code changed from 28070010 to 20132433	2
Acetone	20146211		2
Potassium Nitrate	20157600		2
Sodium Nitrate	20156000		2
Calcium Nitrate	20153400	Double salts and mixtures of calcium nitrate and ammonium nitrate (excluding in tablets or similar forms or in packages of a weight of ≤ 10 kg)	2
Calcium Ammonium Nitrate ³¹⁰	-	No data available in PRODCOM for the substance	2

³¹⁰ The only chemical that is included in Regulation (EU) No 98/2013 but not in the annex I of the Impact Assessment Study of 2010, is Calcium Ammonium Nitrate. However, it was discussed alongside Ammonium Nitrate. Nonetheless, the Regulation (EU) 98/2013 distinguishes the two substances.

Ammonium Nitrate	20153300	Ammonium nitrate (excluding in tablets or similar forms or in packages of a weight of <= 10 kg)	2
------------------	----------	---	---

Source: Prodcod database (2016); Impact Assessment Study 2010

This report refrains from estimating internal consumption through the value of sold volume, value of exports, and value of imports. Eurostat does not recommend this method for a number of reasons, including:

- Heterogeneity of the composition of products is not guaranteed
- Coverage of production statistics is not necessarily in line with trade statistics
- Temporal delays in data collection and presentation
- Second-hand goods are excluded from calculations
- Value of exports cannot be compared directly to value of sold production
- Provision of Commission Regulation (EEC) No 518/79, which allows for a simplified declaration for the export of complete industrial plants, which is not taken into account of the market calculation according to Eurostat

Moreover, Croatia joined the EU on July 1st 2013. Thus, figures over the period of 2008 to 2016 might be slightly distorted compared to figures of previous impact assessments, due to the addition of data from Croatia. However, the differences are expected to be minimal seeing that Croatia does not arise as a main player in the EU chemical industry according to Eurostat statistics.

Finally, since the implementation of Regulation 98/2013, new substances have been added to Annex II. Indeed, on 30 November of 2016, the European Commission has adopted delegated Regulations 2017/214,³¹¹ 2017/215,³¹² and 2017/216,³¹³ adding the substances of “Aluminium powders”, “Magnesium nitrate hexahydrate”, and “Magnesium Powders” to Annex II. However, the inclusion of these substances is too recent for them to be part of the market analysis. As the analysis is based mainly on PRODCOM statistics, data for the substances are not readily available for the timeline of the exercise.

To summarise the reasons for the absence of robust data for quantification of the market for explosives precursors, the market for non-professional uses and for the analysis of the value chains, it must be said that:

- There is a complex supply chain that links manufacturers to end users. The supply chain is split between professional use (sales B2B) and non-professionals use (sales B2C) via distributors and retailers. Within this chain there are divergences of NACE codes because, moving away from manufacturers to downwards downstream users applications, NACE codes become larger and more generic. In addition, there are some divergences between NACE codes and PRODCOM codes because both systems

³¹¹ OJ L 34, 9.2.2017, p. 1.

³¹² OJ L 34, 9.2.2017, p. 3.

³¹³ OJ L 34, 9.2.2017, p. 5.

look at different objectives (NACE codes are for activity sectors while PRODCOM are for products).

- Manufacturers of basic chemicals listed as explosives precursors sell the largest share of their production as intermediate chemicals inside their organisation (sales to other subsidiaries or divisions or production sites). Another share is sold to companies transforming the product or manufacturing blends. A small share is sold in bulk to distributors who repack the product and sell them to smaller industrial companies blending those of transforming those into other products. A very small share can be sold directly to consumers in small bags or bottles (ex. acetone, acids, hydrogen peroxide). Although each actor of the chain is supposed to report the sales and uses of substances listed in the legislation, obligations to report vary in the supply chain, across Member States and according to national reporting obligations and NACE codes. National and EU Statistics are not accurate for the above reasons and the granularity of statistics is way too rough to differentiate end uses and applications of substances. On the other side, distributors easily lose control on the use of substances that they sell to their clients and do not have rules and commands to get accurate data from their clients. In addition, there is always reluctance of interviewees to provide sales data because such data are confidential.
- Estimations can be obtained via the trade associations (CEFIC sector groups – FECC distributors – AISE detergents – Colipa cosmetics), but often they must refer to their members to ask permission to provide data and often they need to collect new data as well.

Estimation of the number of online distributors and retailers

Table 17 shows the number of products, as well as the number of retailers selling those products on Amazon, for the five largest European markets for Amazon (United Kingdom, Germany, France, Spain, Italy).

For the **number of products**, the methodology consists of collecting the number of “hits” when searching the names of the substances through each European region serviced by Amazon. For the **number of retailers**, the methodology consists of collecting the number of retailers for each product, and further de-duplicating the results so as to not count a retailer more than once. When searching for the products each substance was preliminary translated into the language of the website.

It must be noted that estimating a price range of the products is not recommended as products are not comparable. Moreover, the language bias affects the results of the research, which bears the importance of adequately translating the substance. After review, it has been decided not to include numbers estimated through web scraping of e-Bay, as those were subject to contain too many spurious information. Finally, for the group of chlorates and perchlorates, each substance was identified individually. However, results sometimes coincide as the search algorithm of the Amazon website tends to amalgamate them under the same designation. For example, potassium chlorate and potassium perchlorate return identical results in Spain and Italy.

For these reasons, the number reported are not intended to provide an accurate estimate of the total number of online retailers, but rather to give at least a partial idea of the latter, as they cannot be considered as statistically significant of the overall market of online retailers. In addition, despite results have been cleaned to rid them of unwanted returns (i.e. non-chemical-related products), the current figures could still contain a certain degree of spuriousness error.

The study to inform the Impact Assessment of 2010 assumed that only about 0.5% of the goods in question (i.e. products including substances listed under both annexes) are sold online **when sales to the general public is concerned**.

Table 18: Online retailers - Number of products and retailers selling on Amazon in January 2018 for the UK, Germany, France, Spain and Italy

Substance	Amazon UK		Amazon DE		Amazon FR		Amazon ES		Amazon IT	
	Number of products	Number of Retailers	Number of products	Number of Retailers	Number of products	Number of Retailers	Number of products	Number of Retailers	Number of products	Number of Retailers
Annex I										
Hydrogen Peroxide	305	136	299	143	306	77	306	82	305	77
Nitromethane	37	11	15	11	55	15	12	5	1	1
Nitric Acid	317	157	144	74	190	102	81	45	91	65
Potassium Chlorate	6	6	18	9	17	11	2	2	0	0
Potassium Perchlorate	19	11	30	7	15	11	2	2	0	0
Sodium Chlorate	91	28	28	18	56	10	1	1	1	1
Sodium Perchlorate	19	13	13	11	9	7	0	0	0	0
Annex II										
Hexamine	26	15	7	5	11	7	2	2	0	0
Sulphuric Acid	295	116	304	131	0	0	0	0	133	66
Acetone	304	160	291	163	308	157	301	174	303	179
Potassium Nitrate	292	131	85	44	203	90	33	21	38	20
Sodium	292	111	12	12	18	12	0	0	11	7

Substance	Amazon UK		Amazon DE		Amazon FR		Amazon ES		Amazon IT	
Nitrate										
Calcium Nitrate	183	74	1	1	81	42	17	15	15	5
Calcium Ammonium Nitrate	28	12	0	0	0	0	0	0	0	0
Ammonium Nitrate	302	68	41	33	306	76	4	4	37	23

ANNEX 5: ANALYTICAL MODELS USED IN PREPARING THE IMPACT ASSESSMENT

Identification of the policy options

Based on the findings of the evaluation of the implementation of the Regulation, a shortlist of realistic policy measures which are likely to address the problems and related issues, was identified.

The identification of the list of **policy measures** was based on the analysis of the legislation of the Member States, the work already undertaken by the European Commission, and the elements - in terms of market issues and security threats - provided by the analysis of the problem.

Policy measures have been then aggregated in policy options. Starting from the options included in the Inception Impact Assessment (IIA),³¹⁴ three main **policy options** were defined, characterised by an increasing level of regulatory intervention.

- *Policy Option 0* – Baseline (the Commission, in consultation with the SCP, will continue to monitor and facilitate the application of the Regulation);
- *Policy Option 1 (Non legislative)* – Reinforce the application of the Regulation with non-legislative measures;
- *Policy Option 2 (Legislative)* – Strengthen and clarify the restrictions and controls of the Regulation
- *Policy Option 3 (Legislative)* – Introduce further controls along the supply chain.

The identification of policy options and measures took also into account the feedback received to the IIA, input received from the external supporting study and comments from the Secretariat-General.

Assessment of the policy options

In order to assess the policy options, a set of assessment criteria was defined as well as a scoring system to be used to summarise the assessment of the adequacy of each policy measure composing the policy options with regard to each assessment criterion.

The following **assessment criteria** were used to assess the policy measures:

- *Coherence* with the general policy objectives of the future EU intervention;
- *Effectiveness* in allowing the achievement of the specific policy objectives of the future EU intervention;

³¹⁴ http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-2706122_en

- Economic, social and environmental impacts;
- Effects on fundamental rights;
- Capacity of the policy measures of limiting the introduction of new or additional costs for all stakeholders impacted by the Regulation and of maximising the probability of achieving the expected results/output (*Efficiency*).

Each policy measure was qualitatively assessed against the assessment criteria listed above using a **scoring system** that goes from -3 (very negative impact) to +3 (very positive impact).

The quantification of the scores was guided by the external supporting study, the evaluation of the implementation of the Regulation, and the consultation of stakeholders. Stakeholders provided inputs to the assessment of the measures through (see Annex 2 and 4.1 for more details on consultation activities):

- The *Open Public Consultation* managed by the Commission;
- Eight *online workshops* (two per main category of stakeholders - NCAs, NCPs, manufacturers and distributors, and retailers) organised by the external contractor;
- *Written contributions* sent to the contractor based on an excel questionnaire shared in advance before the online workshops;
- The Hearing of the SCP.

Each policy measure was therefore assessed against the criteria mentioned above and qualitatively attributed a score for each assessment criterion. Each score was accompanied by a descriptive assessment which provides the rationale of the score and illustrates the evidence supporting the judgment.

The overall impacts of the policy option have been calculated as the sum of the scores given to all policy measures that compose the specific policy option.

Scores were used to compare the policy options between each other and against the baseline (“No policy change” option) by quantifying the scale of the incremental positive (e.g. +1) or negative (e.g. -1) impacts.

The table below shows the rationale for the assessment of each criterion and the type of analysis performed.

Table 19: Assessment criteria, rationale for the assessment and type of analysis performed

Assessment criteria	Rationale for the assessment	Type of analysis
Coherence	Internal coherence with the general objectives of the EU intervention: - GO1 - Ensuring the functioning of the internal	Reconstruction of the theory of change which links each measure to the general objectives of the future EU intervention. Scores range from 0 to +3 since all measures

Assessment criteria	Rationale for the assessment	Type of analysis
	- market; - GO2 - Ensuring high level of security.	have been designed consistently with the general objectives. High scores correspond to measures that respond to both general objectives and address most of the underlying issues. The overall assessment of the policy options have been discussed with and validated by stakeholders during the Hearing of the SCP.
Effectiveness	Extent to which the policy measure/option will contribute to the achievement of the specific objectives of the EU intervention: - SO 1 – Further restrict access to certain explosives precursors and strengthen controls; - SO 2 – Align restrictions and controls with the evolving threat regarding explosives precursors; - SO 3 – Increase enforcement by the competent authorities of the Regulation; - SO 4 – Improve the transmission of information and compliance along the supply chain; - SO 5 – Facilitate intra-EU trade and prevent distortion of competition; - SO 6 – Improve the clarity of the Regulation and ensure uniformity in its application.	Assessment of the likelihood that the expected results and outcomes (as described in the theory of change) will realise starting from the current implementation state of play of the Regulation and the factors that affected it. The analysis relied also on the feedbacks of representatives from economic operators, NCAs and NCPs gathered during the online workshops on the possible contribution of each measure to the specific objectives of the future EU intervention. Scores range from -3 to +3 depending on the overall cumulative effects. The overall assessment of the policy options have been discussed with and validated by stakeholders during the Hearing of the SCP.
Economic impacts	- Impacts on competition and more specifically on the structure of the supply chain of explosives precursors; - Impacts consumers and more specifically impact on price, quality and availability of products or any other relevant dimension that affect the choice of consumers; - Impacts on SMEs by making an assessment of the distribution of the effects of the policy measure/option on costs, barriers to entry, competition, for SMEs versus large companies.	Analysis of the impacts based on: - qualitative estimates of the likelihood (e.g. high, medium, low) that each impact will occur (or conversely the risk that the impact will not occur); - qualitative estimates of their absolute magnitude (see scoring system above); - qualitative estimates of their evolution over time (e.g. increase, decrease, stable); - qualitative estimates of their relative size for specific stakeholders, differentiating per group of players involved (e.g. economic operators, SMEs, members of the general public,

Assessment criteria	Rationale for the assessment	Type of analysis
Social impacts	- Impacts on labour market by assessing to what extent restrictions on the marketing and use of specific substances can lead to a reduction of workers for economic operators involved in the supply chain; - Impacts on public health by making an assessment of the implications in terms of both safety and security for EU citizens.	NCA and NCP). The analysis of the efficiency of each policy measure relied also on feedbacks on the increase/decrease of costs provided by representatives from economic operators, NCA and NCPs in writing and during the online workshops. Scores range from -3 to +3 depending on the overall cumulative effects. Overall impacts of the policy options have also been discussed and validated by stakeholders during the Hearing of the SCP.
Efficiency	Capacity of the policy measures/options of limiting the introduction of new or additional costs for all stakeholders impacted by the regulation and of maximising the probability of achieving the expected results/output. The following types of costs were considered: - Enforcement costs;³¹⁵ - Regulatory charges;³¹⁶ - Substantive compliance costs;³¹⁷ - Administrative burdens;³¹⁸ - Indirect costs.³¹⁹	
Environmental impacts	Effects that a policy measure/option might have in terms of reduction of pollutant emissions, use of means of transport or paper.	Assessment of the possible effects on the environment starting from the assessment done for the 2010 impact assessment and integrating input from the external supporting study. Scores range from -3 to +3 depending on the overall cumulative effects. Overall impacts of the policy options have also been discussed and validated by stakeholders

³¹⁵ Costs incurred by authorities with activities linked to the implementation of the Regulation, such as monitoring, enforcement and adjudication.

³¹⁶ For instance fees and taxes.

³¹⁷ Costs which encompass investments and expenses that are faced by economic operators and members of the general public in order to comply with substantive obligations derived from the Regulation.

³¹⁸ Costs borne by authorities, economic operators and members of the general public as a result of administrative activities performed to comply with information and reporting obligations contained in the Regulation.

³¹⁹ Changes in the prices and/or availability and /or quality of the substances subject to the Regulation and/or products containing them.

Assessment criteria	Rationale for the assessment	Type of analysis
		during the Hearing of the SCP.
Impacts on fundamental rights	Right to non-discrimination by assessing if and to what extent citizens risk to be discriminated.	Qualitative analysis of the implications of each policy option/measure on the fundamental rights mentioned in the premises of the Regulation.
	Protection of personal data by assessing the impact on the volume of persons who have to provide their personal data collected, the quantity of personal data collected from each of these persons and the quantity of persons and institutions having access to this data.	Scores range from -3 to +3 depending on the overall cumulative effects.
	Freedom to conduct a business by assessing if and to what extent the economic operators are impacted for opening or continuing their business related to explosives precursors and the impact on the level of complexity and administrative burden required in order to do this business.	Overall impacts of the policy options have also been discussed and validated by stakeholders during the Hearing of the SCP.

As mentioned above, all policy options were assessed against a **baseline scenario** where no EU action is taken to address the existing problems. There will be no major changes in the overall policy framework, except for the revision of the REACH Regulation whose impact on the implementation of the Regulation cannot be assessed at this stage, and the practical implementation of the recently adopted Commission recommendation on immediate steps to prevent misuse of explosives precursors.³²⁰ It is also assumed, based on existing literature and past trends, that terrorist attacks using HMEs are likely to continue to be an important part of the threat landscape. If nothing is done to further approximate the different national regimes, it also unlikely that current implementation practices will become more harmonised and distortions in the internal market will reduce. However, the awareness of the requirements of the Regulation and their enforcement will progressively improve as a result of a learning curve that can be observed since the entry into force of the Regulation.

Overall quality of the analytical methods used

DG HOME critically assessed the input received from stakeholders and the external supporting study. The results of the analysis have been shared with the IASG at different steps of the process and comments received were progressively integrated.

However, a **certain degree of uncertainty** in the analytical results persists, and is linked to the limited availability of information on the following aspects of the baseline:

³²⁰ European Commission (2017), Commission Recommendation of 18.10.2017 on immediate steps to prevent misuse of explosives precursors, C(2017) 6950 final.

- *The practical implementation of the Regulation.* There is no central repository for data related to the number of licences granted, registrations, suspicious transactions, inspections and sanctions. Therefore, DG HOME had to rely on the only possible source of information: national authorities. The information gathered was heterogeneous, not always complete, and the quality of the input received varied. It did not allow a precise quantification of the impacts of the identified policy measures. However, stakeholder feedback helped to comprehend the scale of the impacts and compare them.
- *The costs borne by stakeholders that implement the Regulation.* The assessment of regulatory costs for economic operators and Public Authorities strongly relies on the qualitative feedback provided by relevant stakeholders during the consultations. Even if a precise quantification and monetisation of them is not possible, stakeholder feedback allowed the identification of the most burdensome requirements and potential measures for cost saving and efficiency gains.
- *Trends in production and trade of explosives precursors listed in the Annexes.* The analysis of the market of explosives precursors was hindered by the lack of public data at the level of specific substances. Some substances do not have specific PRODCOM codes, and are part of larger substance groups whose trends are affected by different dynamics. This flaws the analysis of trends for those particular substances. For instance, chlorates and perchlorates – which regroup potassium chlorate, potassium perchlorate, sodium chlorate, sodium perchlorate – are included in a PRODCOM code that also includes bromates and perbromates, iodates and periodates. Differently from explosives precursors, bromates and iodates are subject to environmental scrutiny, which might impact the overall trends of the group of substances.
- *Level of consumption of explosives precursors in EU28 MS* (i.e. value of sold production in EU plus value of imports from non EU countries, minus the value of exports to non EU countries). The contractor that carried out the market analysis restrained from estimating internal consumption through the value of sold volume, value of exports, and value of imports, because Eurostat does not recommend this method for a number of reasons, including:
 - Heterogeneity of the composition of products is not guaranteed;
 - Coverage of production statistics is not necessarily in line with trade statistics;
 - Temporal delays in data collection and presentation;
 - Second-hand goods are excluded from calculations;
 - Value of exports cannot be compared directly to value of sold production;
 - Provision of Commission Regulation (EEC) No 518/79, which allows for a simplified declaration for the export of complete industrial plants, which is not taken into account of the market calculation according to Eurostat.

- *The market for members of the general public and professional users.* The market analysis in this regard has been hindered by the lack of both convergence on the definition of ‘professional user’ and ‘member of the general public’ among sectors and Member States, and official statistics. The estimation of the market for non-professional users, and the shares of the market linked to the specific uses proved to be difficult, both taken as a whole, and distinguishing by type of sale (i.e. to consumers, to professional or to industry). A precise estimation of these shares would have required an extensive data collection effort and multiple stakeholders’ consultations aimed at gathering data that are not publicly available and validating assumptions related to the use of each substance. Given the scope of the supporting study, the external contractor used assumptions included in the 2010 Impact Assessment, discussed them with experts in order to assess their relevance to the current context, and applied them to estimate the share for non-professional use only at substance level, and not for specific uses.

The above **uncertainties have been minimised** through extensive discussions with the external contractor and stakeholders regarding the results of the analysis and the estimations done for the baseline. Representatives from NCAs, NCPs and economic operators were consulted through in-depth interviews, online workshops (i.e. 52 participants), and the Hearing of the SCP (i.e. 58 participants).

ANNEX 6: WHO IS AFFECTED BY THE INITIATIVE AND HOW?

Who is affected	How is affected
NCAs/NCPs	The initiative would impose (directly or indirectly) new obligations to NCAs and NCPs. It will entail the obligation for NCA to make changes to the national laws, notably in Member States applying a licencing or registration regimes. It will require from them one-off activities, such as adapting national criteria for granting/refusing licences, setting up trainings for law enforcement, first responders and customs authorities, ensuring the appropriate inspections service has been established and assigning responsible staff for reporting progress to the Commission. This initiative will also entail the obligation for NCP to exchange reports on relevant suspicious transactions with other NCP and to make possible for end-users to report thefts and disappearances. These obligations are not expected to entail significant costs considering that reporting activities are already being performed by NCPs and may not necessarily require additional human resource. Furthermore, both NCA and NCP may have to adapt practices to tackle specifically online marketplaces. Overall, this will represent a slight increase in enforcement costs for NCA and NCP and a slight increase of their administrative burden.
Manufacturers and distributors	Manufacturers and distributors will have the obligation to comply with the restrictions related to the new substances that will be added to Annex I, including to report to the NCPs regarding any significant thefts or disappearances of new restricted substances. They will have costs related to raising awareness and train relevant staff dealing with explosives precursors Additionally, they will have to inform the next link in the supply chain when a substance or mixture is subject to the Regulation, including for Annex II. COM and SCP will need to discuss the rationale, target, and

	responsibility of the labelling requirement. A new obligation might arise for manufacturers from this specific decision. If labelling will be conceived as a signal for retailers that they have to apply restriction and monitor sales, then the label shall be put by manufacturers and apply to all regimes. Economic operators, namely those carrying out business in several Member States, would benefit from more harmonised system of regimes and controls across the EU and obligations with regard to labelling and the transmission of information on product content along the supply chain. The introduced restrictions on substances can decrease the consumption and demand of some products containing substances in high concentration while possibly increasing the demand for lower concentrations or alternative products. Economic operator that are producing or selling restricted goods may be affected to a limited extent. Nevertheless, new opportunities will be provided for companies producing or selling products containing lower concentration of the substances covered by the Regulation as well as alternative substances. All things considered, no significant impact on the turnover of chemical sector is expected.
Retailers	Retailers will have the obligation to verify which are the new products falling under the Regulations' requirements. In countries, applying a licencing regime, retailers will have to adapt to further restrictions, relating to the ban of part of the Annex I substances, which have been previously available to the general public through licenses. In countries that have been applying a registration regime to the three substances provided by the Regulation, retailers will have adapt to a new regime of restrictions, either a ban or a licensing regime. Retailers will continue to be required to check licences (where applicable) for purchases of restricted products by non professional users. They will be also requested to verify the legitimacy of the intended use of the substance or the intention of the users and to verify whether a customer is a member of the general public. Retailers should also ensure to raise awareness and train relevant staff involved in the marketing and sale explosives precursors. Internet retailers and general retailers having online sales services will need to adapt their trading system to improve detection of suspicious transactions.

	Retailers would benefit from improved clarity of the Regulation's provisions and simplified and more harmonised system of regimes and controls on substances. This in turn, would contribute to reducing the challenge for retailers of identifying legitimate users of restricted substances at the point of sale and will facilitate detection of suspicious transactions.
Members of the general public	The access of members of the general public to some explosive precursors will be further restricted with the introduction of new substances in Annex I of the Regulation and the revocation of the registration regime. Specifically, for the members of the general public it will not be anymore possible to have access to some substances in high concentration,, neither through license nor through registration. For the remaining restricted substances in Annex I members of the general public will be able to purchase them only after obtaining a license in Member States applying a licensing regime . Members of the general public will also need to report to the NCP significant thefts and disappearances related to explosives precursors included in the Annexes of the Regulation. The introduction of common minimum criteria for granting and refusing licenses will harmonise the approach to issuing licenses and will ensure a common minimum level of security consideration are taken into account in this process. The general public would benefit from a higher level of security and reduced risk of misuse of explosive precursors for the manufacture of HME, stemming from the more restrictive and streamlined measures relating to the making available of explosives precursors.
Professional Users	The preferred policy option will slightly affect professional users. They will be requested to report to the NCP significant thefts and disappearances related to explosives precursors included in the Annexes of the Regulation. The clarification of the definition of professional users will address existing uncertainties in the identification of such users at the point of sale.

Summary of costs and benefits

The tables below summarise the costs and benefits for the **preferred option**. Given the limitations created by the lack of available data, the tables have been filled to the extent possible (-). Where there are no relevant costs, the table states this as NA. The data is based on a number of sources, including the 2010 Preparatory Study prepared by GHK³²¹ and the subsequent Commission SWD Impact Assessment.³²² Other studies that have been taken account are those conducted by ENCO FR in 2015,³²³ ECORYS in 2016³²⁴ and Ernst&Young/RAND in 2018.³²⁵ Due to the different sets of data, the tables below provides estimates in ranging between a minimum and maximum.

Table 20: Overview of Benefits

<i>I. Overview of Benefits – Preferred Option (€ million)</i>		
<i>Description</i>	<i>Amount</i>	<i>Comments</i>
<i>Direct benefits</i>		
Reduction of crime, including terrorist attacks ³²⁶	500	Main beneficiary of reduction of crime is society at large.
Savings in compliance costs	25-75	Main beneficiaries are economic operators. Savings arise mainly through increased simplification, facilitation of cross-border operations and prevention of distortion of competition.
<i>Indirect benefits</i>		
-	-	-

³²¹ GHK, Rand Europe and Comstratos, 2010. Preparatory Study to Inform an Impact Assessment of Potential Legislative and Non-legislative Restrictions on Chemical Precursors to Explosives.

³²² SEC(2010) 1040 final of 20.9.2010.

³²³ ENCO FR, Briefing Sulphuric Acid 2015, restricted.

³²⁴ ECORYS, 2016. Preparatory study to inform the 2017 report on the application of Regulation 98/2013.

³²⁵ Ernst & Young, Rand Europe, 2018. Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative.

³²⁶ See figure 3.

II. Overview of costs– Preferred Option (€ million)							
Policy measure		Citizens/ Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
1 (expand Annex I)	Direct costs	-	-	5.5-25.3	17.7-57.3	0	1.9-5.5
	Indirect costs	-	-	-	-	-	-
2 (faster procedure)	Direct costs	NA	NA	NA	NA	NA	NA
	Indirect costs	-	-	-	-	-	-
3(no more registration)	Direct costs	-	-	-	2.4-6.4	-	0.7-2.2
	Indirect costs	-	-	-	-	-	-
4(reduce licensing)	Direct costs	-	-	-	0.5-1	0.1	NA
	Indirect costs	-	-	-	-	-	-
5(harmonised licensing)	Direct costs	-	-	-	NA	0.2	0.2
	Indirect costs	-	-	-	-	-	-
6 (definitions)	Direct costs	NA	NA	negligible	negligible	negligible	negligible
	Indirect costs	-	-	-	-	-	-
7(labelling)	Direct costs	NA	NA	negligible	negligible	NA	NA
	Indirect costs	-	-	-	-	-	-
8 (staff training)	Direct costs	NA	NA	-	3.2-17,9	NA	NA
	Indirect costs	-	-	-	-	-	-
9(online clarification)	Direct costs	NA	NA	NA	NA	-	-
	Indirect costs	-	-	-	-	-	-
10 (MS inspection & training)	Direct costs	NA	NA	-	-	5.3	5.3-10.3
	Indirect costs	-	-	-	-	-	-
11(reporting)	Direct costs	NA	-	-	-	-	-
	Indirect costs	-	-	-	-	-	-
Total preferred option	Direct costs			5.5-25.3	23.8-82.6	5.6	8.1-18.2
	Indirect costs	-	-	-	-	-	-

Table 21: Overview of Costs

The table summarises the estimated costs for businesses relating to administrative and compliance costs of the different measures of policy option 2. As the measures in policy

option 2 further restrict the scope of products containing restricted explosives precursors that can be made available to the general public, these measures will lead to economic losses in the sense of profit foregone by businesses. The potential profit foregone to business cannot be estimated with certainty and is therefore not included in the table, but explained separately. The explanations focus on the restrictions related to sulphuric acid and nitromethane, which are the only measures which are expected to have a significant economic impact in terms of loss in sales to the general public.

Sulphuric acid

Policy option 2 would make sulphuric acid a restricted explosives precursor, with the effect that the making available of sulphuric acid above a concentration of 15% w/w would not be allowed to members of the general public. Member States may decide to allow members of the general public to acquire, through a licence, mixtures or substances containing sulphuric acid in concentration not exceeding 40% w/w .

The sale of sulphuric acid is already regulated in Europe due to its hazardous properties as a skin corrosive chemical substance.³²⁷ The packaging of sulphuric acid and aqueous solutions containing sulphuric acid in a concentration exceeding 15% must bear a hazard pictogram for corrosivity and the hazard statement ‘Causes severe skin burns and eye damage’. The packaging must also be fitted with child-resistant fastenings. This mitigates the the costs of companies by introducing restrictions related to security for the same concentrations.

The current annual volume of sulphuric acid sold in the EU is 8,095 kilotonnes (kt) with a value of €543 million per year. The **household use of sulphuric acid is approximately 0,5% of the total market**. This estimation is based on input from three different external contractors, as shown in the table below.

Table 22 : market of sulphuric acid

Source	Reference period	Production volume (kt)	Production value (€ million)	Percentage of household use
Ernst & Young 2018 ³²⁸	2008-2011	8,631	554	0.5-1%
Ecorys 2016 ³²⁹	2014	8,095	543	0.5%
ENCO FR 2015 ³³⁰	2015	7,150	515	0.5%

About 10-30% of sulphuric acid sold to the general public is in concentration above 40% w/w. The price of such products ranges from €5 – 25/kg, averaging at €15/kg. The

³²⁷ Annex VI of Regulation (EC) 1272/2008 (CLP), OJ L 353,31.12.2008, p.1).

³²⁸ Ernst & Young, Rand Europe, 2018. Study on combatting the threat posed by explosives precursors: evaluation of the existing policy and legislative framework and preparation of an impact assessment of possible options for a future EU initiative.

³²⁹ ECORYS, 2016. Preparatory study to inform the 2017 report on the application of Regulation 98/2013.

³³⁰ ENCO FR, Briefing Sulphuric Acid 2015, restricted.

remaining 70 – 90% of sulphuric acid sold in products to the general public is estimated to be in concentration not exceeding 40% w/w, with an estimated price of about €5/kg.

The table below provides estimation of the **value of consumer products**. The estimated volume of consumer products (40.5 kt) is multiplied by the price of the product category (i.e. €15/kg for the >40% w/w products and €5/kg of the ≤40% w/w products). There is no data available regarding products with more or less than 15% of sulphuric acid.

Table 23 - Value of consumer products containing sulphuric acid

	Estimated market size of base chemicals		Estimated proportion sold to general public	Estimated volume of base chemical used in consumer products	Estimated value of consumer products
	Volume	Value (producer price)			
Sulphuric acid	8.095 kt	€393 million	[0,5%]	40,5 kt	€ 786 – 1.100 million
Consumer products containing sulphuric acid	40,5 kt	€ 2 million	-	-	€ 200 – € 364 million
>40% (w/w)			10 – 30%	4,1 - 12,1 kt	€60.7 – €182.1 million
≤40% (w/w)			70% - 90%	28,3 – 36,4 kt	€141.7 – €182.1 million

Household use of products containing sulphuric acid above 40% is limited mainly to etching activities for circuit boards and drain cleaners. These products are mostly used by professional plumbers, but are also commercially available for consumers. Sulphuric acid is also widely used for the manufacture of lead-acid batteries.³³¹ Most of the battery acid will be handled by professional users. Prices for refill battery acid are in the magnitude of 5-10 €/kg. This brings about an estimated value of consumer products between €35-70 million.

The value of consumer products affected by policy option 2 is expected to be considerably lower than the total estimated value of €200 – €364 million of consumer products on the market containing sulphuric acid due to the following considerations:

- Products containing sulphuric acid in concentration not exceeding 15% would remain available to the general public without restrictions. There is no data known on the relative size of this part of the market.
- Products containing sulphuric acid in concentrations between 15% and 40% will be only partially affected by option 2, as part of the regular users of these

³³¹ It should be noted that batteries are considered "articles" for the purpose of the Regulation and are therefore not restricted. By contrast, refill bottles with sulphuric acid between 30-40% (w/w) would be restricted under policy option 2.

products are likely to continue acquiring them through a licence in those Member States that provide for that possibility.

Moreover, to establish the potential loss for businesses in case of a restriction of the products in question should look at the aggregate profit on the product accruing to EU businesses in the entire supply chain.³³² This shows an estimated profit foregone to businesses that would never exceed a range of €66 - 120 million EUR. Since that estimate includes products of all concentrations, the loss of profit foregone is more likely to come closer to the loss of profit related to products containing more than 40% w/w, which would be **at least €10 million but no more than €30 million**.³³³

The exact magnitude of the economic loss to the chemical sector cannot be estimated with more certainty. Two different studies assessing the restriction of sulphuric acid above 40% w/w conclude that **"overall the magnitude of lost sales / revenues EU-wide is marginal."**³³⁴ And "the restriction is not expected to have an impact on retailers, as alternative products are available. The impact might be significant on a very small number of speciality manufactures who are preparing and marketing the sulphuric acid based drain cleaner products. Nevertheless, the impact on this small number (who would also have a possibility to switch to biological-based products) might be considered to be **very minor on the European scale.**"³³⁵

Nitromethane

Policy option 2 would lower the concentration limit for nitromethane from 30% w/w to 16% w/w. Members of the general public would only be able to acquire nitromethane in concentrations not exceeding 40% w/w with a licence in those Member States that provide for that possibility.

The market for nitromethane is very small in comparison to the market of other restricted explosives precursors, both in terms of weight and value (see table 18 in Annex 4). Hydrogen peroxide, ammonium nitrate and nitric acid all have an annual production volume of around 1100 kt, and sulphuric acid of around 8100 kt. Nitromethane has an annual production volume of around 67kt only. The value of the sold production of nitromethane, 43 million EUR, is also very little in comparison to the other four mentioned above, which range from 346 to 1129 EUR million. On top of that, Annex 6 suggests that in the coming years, the **sale of nitromethane may further decrease**, possibly also due to it being classified as possibly carcinogenic.

The exact magnitude of lowering the concentration limit from 30% to 16% w/w cannot be estimated with any degree of certainty. Before nitromethane was restricted, the value of the market of consumer products with no more than 30% w/w of nitromethane was estimated at €4 to 11 million. The potential profit foregone would be a

³³² SEC(2010) 1040 final of 20.9.2010.

³³³ The decrease in value of consumer products sold in this segment is estimated between €60.7 and €182.1 million. It is estimated however that half of the users will divert to alternative substances, such as enzyme or micro-organism-based detergents, or lower concentrations. This would amount to a decrease in value of consumer products sold in the range of €30,4 to €91 per year, and a profit foregone to business between €10 to €30 per year.

³³⁴ ECORYS, 2016. Preparatory study to inform the 2017 report on the application of Regulation 98/2013.

³³⁵ ENCO FR, Briefing Sulphuric Acid 2015, restricted.

percentage of this estimate, but there is no data on the relative size of the market above and below 16% w/w.

However, the fact that the proposed reduction of the concentration limit concerns a very small, potentially further shrinking market, which is already subject to restrictions under the Regulation, leads to a conclusion that the **economic impact of this measure must be considered to be very minor**.

ANNEX 7: DISCARDED OPTIONS

The following measures were considered at an early stage but subsequently discarded for the reasons outlined below:

- Extend the scope of the Regulation to cover pyrotechnic articles. This measure was considered because there is evidence of misuse of pyrotechnic articles for both terrorist and criminal purposes³³⁶. The making available on the market of pyrotechnic articles is regulated under Directive 2013/29/EU,³³⁷ which categorises articles according to their level of hazard and purpose. According to Europol, categories F2 and F3 fireworks, which present a low and medium hazard, are the most misused.³³⁸ But it is category F4 fireworks, which are intended for use only by persons with specialist knowledge and are already subject to strict rules, that presents a high hazard, either on their own or if the pyrotechnic content is extracted. The market for F4 fireworks in the EU is small, estimated annually at approximately 1,100,000 units with an approximate value of some €10 million,³³⁹ but Europol has expressed concerns that misuse of this type of fireworks is on the rise.

This measure was discarded to ensure coherence and avoid fragmentation in the legal framework applicable to pyrotechnic articles. Regulation EU 98/2013 currently exempts from its scope both pyrotechnic articles as well as articles as defined in REACH. Rather than cover pyrotechnic articles in the Regulation, measures to improve controls over the sale of fireworks, including online, should be introduced directly in Directive 2013/29/EU after careful consideration and consultation of stakeholders.

- Ban sales of restricted explosives precursors over the internet. This measure was considered because there is evidence that restricted explosives precursors have been procured over the internet to carry out terrorist attacks. The threat posed by the availability of explosive precursors through the internet was discussed with Member States and online companies and marketplaces at a dedicated meeting on 11 October 2017.³⁴⁰ During the meeting, it was agreed that public-private dialogue and the sharing of relevant cross-border information among public authorities are essential and have already made a difference towards preventing a number of explosives incidents.

³³⁶ Europol EU Terrorism Situation & Trend Report (Te-Sat) 2017.

³³⁷ Directive 2013/29/EU of the European Parliament and of the Council of 12 June 2013 on the harmonisation of the laws of the Member States relating to the making available on the market of pyrotechnic articles (recast). OJ L 178, 28.6.2013, p. 27–65.

³³⁸ Minutes of the meeting of the Pyrotechnics Working Group, 10 June 2016. <http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=1323>.

³³⁹ Study on production, import and use in the EU of high risk pyrotechnic articles categorised F4 according to Directive 2007/23/EC and Directive 2013/29/EU. Prepared by DJS Research for the European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs. 2006.

³⁴⁰ Ares(2017)6125852.

In the Commission's 2010 Impact Assessment accompanying the proposal for a Regulation,³⁴¹ the option of banning sales of explosives precursors substances (policy option 2) was discarded as only 0.5% of sales of these substances to members of the general public were made online. Because of this, it was concluded that the ban would not strongly contribute to the achievement of the policy objectives and would be disproportionate to the burden imposed on public authorities and economic operators to implement it.

Today, a ban on online sales would still not contribute significantly to enhancing the security of explosives precursors sold to the members of the general public. On the one hand, because, although the volume of sales online has markedly increased from 2010, it still represents a small share of the total. On the other hand, where public authorities and industry have engaged to understand the online market, companies and marketplaces have proved instrumental in detecting and preventing suspicious transactions. Therefore, the costs and burdens to economic operators and public authorities would be disproportionate to the security benefits this measure could bring.

In addition, this measure would have a negative effect on fundamental rights, as it would obstruct the freedom to conduct a business and discriminate against businesses who exclusively sell online or who depend to a high extent on internet sales.

For the reasons above, this measure was discarded at an early stage. Instead of a ban, policy option 1 includes an initiative to promote public-private dialogue and policy option 2 includes the clarification in the Regulation that the restrictions and controls apply to online companies and marketplaces.

- Harmonise penalties across Member States. This measure was considered because the evaluation of the Regulation hinted at potential barriers to the internal market stemming from the lack of harmonisation of penalties across Member States. Upon further consultations of stakeholders, however, including both economic operators and competent authorities, there is insufficient evidence to conclude that harmonising penalties would have an effect on the freedom of movement of goods and on competition. The issue was also not identified as an issue by stakeholders in the Standing Committee on Precursors. The Regulation allows for different penalties by requiring “effective, proportionate and dissuasive sanctions” instead of setting a certain type and/or level of penalties. This respects the different legal traditional in the Member States to address infringements of this Regulation (criminal or administrative). Whereas it is clear that the penalties differ in legislation, there is no reliable data available on the penalties imposed. All rules on penalties, when enforced, have a dissuasive effect on economic operators. The magnitude of the effect might be different for large enterprises and for SME, the latter usually being more concerned about economic sanctions, but this is likely to remain the case even in a harmonised system. Rather than whether the level of penalties is harmonised across Europe, then, what does make a difference to dissuasion is whether the

³⁴¹ SEC(2010) 1040 final of 20.9.2010.

penalties that exist on paper are enforced in practice. To tackle this, all policy options have measures aimed at improving the enforcement capacity of Member States, notably through an increased number of inspections and checks on compliance. In addition, the harmonisation of penalties would, in the short-term, bring significant administrative burdens to public authorities in order to change their rules. Such a burden would be unjustified if the impact on effectiveness is null.

- Exempt inhibited substances from the restrictions. This measure was considered because in recent years there has been noteworthy progress in research into additives that may inhibit the re-concentration and/or use in synthesis of primary explosives of explosives precursor substances.³⁴² Effective inhibitors have been identified for ammonium nitrate, nitromethane, hexamine, and acetone. However, additional testing is needed in order to obtain a more complete picture of the impact of inhibited substances and mixtures on the legitimate uses. In addition, industrial implementation is not straightforward, owing to a complex supply chain and the classified and/or proprietary nature of the research results. As a result, this measure was discarded early due to its unfeasibility at the current moment. Research and testing should continue as a matter of priority, in order to develop commercial solutions that can prevent explosives precursors from being used to manufacture HMEs.
- Introduce requirements on storage. This measure was considered because there are currently no provisions related to the storage of explosives precursors in the Regulation. Secure storage by economic operators is key to identifying significant thefts and disappearances and therefore to being able to comply with the obligation to report these to the designated national contact point(s). Secure storage by both economic operators and members of the general public is essential to preventing the diversion and misuse of explosives precursors substances and mixtures. The SCP Guidelines, in section H, offer advice for companies on how to securely store explosives precursors and control access to premises. In addition, appendix five directs economic operators and users of nitrogenous fertilisers to check the rules and guidance materials that already apply and exist.³⁴³ In order to ensure the safety of chemicals and high levels of protection of public health and the environment, storage requirements for hazardous chemicals, including explosives precursors, have been introduced by a wide range of EU and Member State legislation. Rules are very much substance-specific, as chemical substances react differently to basic conditions, such as temperature, and to each other's presence, often requiring storage to be separate. In the context above, setting additional requirements on storage for explosives precursors, based on security considerations, would certainly have a negative impact on the coherence of the overall framework and lead to disproportionate burdens on SMEs. Therefore, this measure has been discarded in favour of a voluntary approach in policy option 1.

³⁴² The European Commission's FP7 research programme financed PREVAIL (PREcursors of ExplosiVes: Additives to Inhibit their use including Liquids) in 2010-2013 and EXPEDIA (EXplosives PrEcursor Defeat by Inhibitor Additives) in 2014-2018. Some Member States have also financed their own research.

³⁴³ For example, the Agricultural Industries Confederation issued a Guide on the Storage, Handling and Transportation of Ammonium Nitrate-Based Fertilisers in 2015. www.agindustries.org.uk.

- Require economic operators to obtain a licence from the competent authorities before they may possess, use, or make available restricted explosives precursors. This measure was considered in order to significantly enhance controls along the supply chain and to improve the capacity of public authorities to inspect compliance with the restriction and reporting obligations. A similar system is in place for drug precursors under Regulation (EC) 273/2004.³⁴⁴ It was discarded as being too burdensome on both economic operators and the competent authorities. The administrative burden this new procedure would create would not be outweighed by the additional facilitation it would provide. The measure was discarded in favour of a requirement on economic operators to register with the competent authority, included in policy option 3.
- Introduce restrictions on exports. This measure was considered in light of evidence that explosives precursors originating in the Union have been exported legally and subsequently diverted to terrorist groups.³⁴⁵ The misuse of explosives precursors outside of the Union, and especially in conflict areas, has the potential to harm EU interests, as attacks may be directed towards EU citizens and infrastructure and substances may be used for the purpose of training individuals who attempt to carry out attacks in the Union. This measure was discarded in part due to its unfeasibility, as it would not be possible, in practice, for economic operators to check whether customers in third countries are members of the general public or not. In addition, this measure would not contribute to the aim of the legal basis of the Regulation, Article 114 on the functioning of the internal market. It could be re-considered, at a later time, through a new instrument based on Article 133 on the common commercial policy. An effort to better control export flows can be made through a more active engagement of enforcement authorities (policy option 1) or through mandatory training for customs authorities (policy option 2).
- Develop a platform at EU level to exchange information on suspicious transactions, disappearances, and thefts, as well as licences granted and denied. This measure was considered in order to improve the sharing of information between Member States, to ensure that information of cross-border relevance reached all authorities potentially concerned, and to facilitate an analysis of the trends involving the marketing and use of explosives precursors at EU level. It was discarded in part out of concerns that it would have a negative impact on fundamental rights, notably data protection, as the information shared may to a large extent contain personal data and would often be shared on the basis of suspicion, not a reasonable level of proof, and may informally associate a negative judgement to the act of requesting a licence. Therefore, the systematic sharing of all of this information, without prior screening and with all Member States, is not necessarily desired. In addition, the number of reports on suspicious transactions, disappearances, and thefts, and of licences granted and denied, has not been large enough in recent years to justify the costs that the development of a platform would entail. Instead of a platform at EU level, an

³⁴⁴ Regulation (EC) No 273/2004 of the European Parliament and of the Council of 11 February 2004 on drug precursors. OJ L 47, 18.2.2004, p. 1–10.

³⁴⁵ Conflict Armament Research. Tracing the supply of components used in Islamic State IEDs. February 2016. http://www.conflictarm.com/download-file/?report_id=2279&file_id=2284.

increase in the sharing of information of cross-border relevance, after an initial screening at Member State level, can be promoted through policy option 1 or mandated through policy option

ANNEX 8: MONITORING AND EVALUATION INDICATORS

Table 24 – Monitoring indicators

	Objectives	Monitoring indicators	Sources of data and/or collection methods	Data collected already?	Actors responsible for data collection	Target values³⁴⁶
General	GO 1 – Ensure the functioning of the internal market.	Market share of companies working in NACE sectors concerned by the Regulation.	Eurostat	Yes	European Commission	-
	GO 2 – Ensure high level of security of EU citizens.	N° of attacks perpetrated with HME containing explosives precursors Perception of security of European citizens.	Reports of incidents investigations (<i>confidentiality issue</i>)	Yes	Europol	Decrease in N° of attacks with HMEs

³⁴⁶ The target values indicate how the values would evolve in six years (after the date of application) if the initiative is successful.

	Objective s	Monitoring indicators	Sources of data and/or collection methods	Data collec ted alrea dy?	Actors responsibl e for data collection	Target values³⁴⁶
Specific	SO 1 – Harmonise Member States' restriction and control regimes and ensure the uniform applicatio n of the Regulation .	Level of homogeneity in the implementation of the Regulation (analysis of how each provision is implemented nationally). N° of economic operators which notice an improvement on their business deriving from more homogeneity (perception of economic operators).	Survey	Yes	European Commissi on	Increase in N° of economic operators which notice an imporvem ent on their business; more positive perception
	SO 2 - Clarificati on and simplificat ion of the legal framework .	N° of provisions clarified. N° of economic operators which notice an improvement on their business deriving from more clarity (perception of economic operators).	European legislative acts and guidelines Survey	No	European Commissi on	Increase in N° of provision clarified and N° of economic operators which notice an improvem ent

	Objective s	Monitoring indicators	Sources of data and/or collection methods	Data collec ted alrea dy?	Actors responsibl e for data collection	Target values³⁴⁶
	SO 3 – Improve the transmissi on of informatio n along the supply chain.	Level of awareness of economic operators (perception of economic operators). N° of compliant and non- compliant economic operators. % of increase in the number of reports received by NCPs on suspicious transactions, disappearances and thefts.	Survey Inspection services of the Member States NCPs	Yes	European Commissi on	Decrease in N° of non- compliant operators Increase in the number of reports received by NCPs on suspicious transactio ns disappear ances and thefts.
	SO 4 – Ensure that restriction s and controls on explosives precursors adjust to new and evolving threats.	New legislative and non- legislative actions taken as a consequence of evolving threats (e.g. Delegated Acts, voluntary codes).	European legislative acts, NCAs	No	European Commissi on	In general, an increase would be positive, but this indicator also requires a qualitative assessment

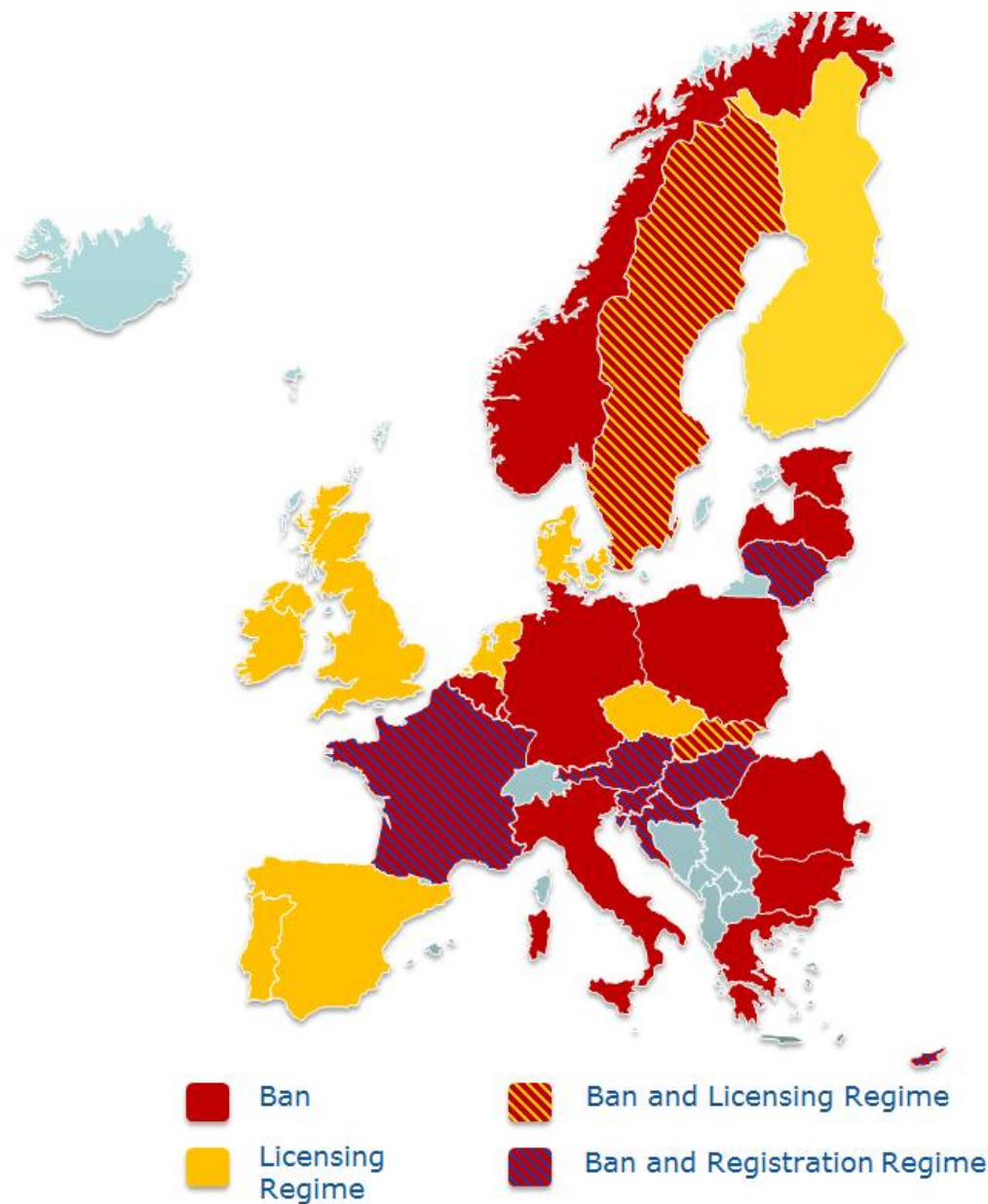
	Objectives	Monitoring indicators	Sources of data and/or collection methods	Data collected already?	Actors responsible for data collection	Target values³⁴⁶
	SO 5 – Further restrict access to certain explosives precursors and strengthen controls.	New legislative and non-legislative actions taken to restrict access to explosives precursors.	NCAs	No	European Commission (consolidation), NCAs (data collection)	In general, an increase would be positive, but this indicator also requires a qualitative assessment
	SO 6 – Increase enforcement capacity of the relevant public authorities	N° and type of control activities per MS. N° and type of imposed penalties.	Inspection services and LEAs	No	European Commission (consolidation), NCAs (data collection)	Increase in number and type of control activities Evolution of N° of penalties needs to be assessed with the general context.
Operational objectives	Tackle new and evolving threats (reactive approach).	N° of new substances added to Annexes.	European legislative acts	Yes	European Commission	-
	Provide for a faster procedure to restrict substances under Annex I.	Average time to implement the procedure to add substances to Annex I.	European Commission and SCP	No	European Commission	Decrease in the time to implement

	Objectives	Monitoring indicators	Sources of data and/or collection methods	Data collected already?	Actors responsible for data collection	Target values³⁴⁶
	Increase homogeneity of the licensing regime.	N° of common criteria for granting/refusing licences effectively adopted at the MS level with respect to the list provided. N° of MS using the proposed format for a licence.	NCAs	No	European Commission (consolidation), NCAs (data collection)	Increase in the number of criteria ; highest possible N° of MS
	Increase relevant authorities' enforcement capacity.	N° and type of training sessions organised per MS; N° of staff trained in one year per MS.	NCAs	No	European Commission (consolidation), NCAs (data collection)	Increase in the N° and type of training session.
	MS to set up of specialised inspection services.	N° of MS having a specialised inspection service.	NCAs	No	European Commission (consolidation), NCAs (data collection)	Highest N° of MS possible

	Objective s	Monitoring indicators	Sources of data and/or collection methods	Data collec ted alrea dy?	Actors responsibl e for data collection	Target values³⁴⁶
	MS to report on number and types of incidents, suspicious transactions, disappearances and thefts, licenses provided, inspections carried out and imposed sanctions.	N° of reports provided to the EC according to the specified format and completed to the 50% or more.	NCAs, NCPs	No	European Commission (consolidation), NCAs and NCPs (data collection)	In general, an increase would be the target, but the security context also needs to be taken into account.
	Cross-border exchange of information (NCP to NCP).	N° of NCPs that declare they regularly share information with other MS NCP. N° of reports shared with other MS NCP.	Survey	No	European Commission	Highest N° of NCPs possible. Increase in the N° of reports.
	Require end-users to report significant thefts and disappearances.	N° of reports from end-users on thefts and disappearances.	NCPs	No	European Commission (consolidation), NCPs (data collection)	In general, an increase would be the target, but the security context also needs to be taken into account.

	Objective s	Monitoring indicators	Sources of data and/or collection methods	Data collec ted alrea dy?	Actors responsibl e for data collection	Target values³⁴⁶
	Require economic operators to inform the next link in the supply chain when a substance or mixture is subject to the Regulation, including for Annex II.	N° of retailers that declare their level of understanding of products concerned by the Regulation has increased thanks to better communication with manufacturers/suppliers.	Survey	No	European Commission	Highest N° possible
	Require training by retail of their staff.	% of retailer companies that organise at least one training session per year.	Survey	No	European Commission	An increase in the % and N° of retailers that organises trainings
	Clarify the notion of professional user; Clarify labelling provision.	See SO 2.				
	Clarify that the regulation applies to companies operating online.	N° of companies operating online complying with the Regulation. N° of MS having a dedicated system to control online sales.	Inspection Services	Not in all MS	European Commission (consolidation), NCAs (data collection)	Increase in the N° of companies; highest possible N° of MS

ANNEX 9: MAP OF THE DIFFERENT REGIMES IN THE EU FOR THE MARKETING AND USE OF RESTRICTED EXPLOSIVES PRECURSORS



ANNEX 10: DESCRIPTION OF THE PROPOSED COMMISSION RECOMMENDATION SETTING OUT GUIDELINES FOR LICENSING AND REGISTRATION REGIMES (MEASURE UNDER POLICY OPTION 1)

To reinforce the existing restrictions the Commission would issue a recommendation with guidelines through which Member States could make their licensing and registration systems more robust. The recommendation would be based on good practices and would go beyond the existing guidance documents produced by the Commission. The recommendation would address the following issues:

- Common criteria for granting licences. Member States that maintain licensing regimes would be recommended to adopt minimum criteria for granting licences. In addition to taking into account all relevant circumstances, and in particular the intended use, as the Regulation already requires, competent authorities should take into account the availability of lower concentrations or alternative substances that would achieve a similar effect, the proposed arrangements to ensure that the restricted explosives precursor is kept securely, and finally the background of the individual applying for a licence, in particular his or her criminal records.
- Identifying economic operators in registration regimes. Member States that maintain registration regimes would be recommended to set up a registry of economic operators, giving competent authorities a clear picture of who are the operators to which they should target awareness-raising and compliance checks.
- Reporting transactions involving the members of the general public to the competent authority. Member States would be recommended to periodically submit the list of transactions involving members of the general public, who acquired restricted substances via the presentation of a licence or the registration of their transaction, to the competent authority. This would give the competent authority a clear picture of who are the members of the general public who are in legal possession of restricted substances.
- Storage conditions and securing of premises. Economic operators possessing, using, storing, and/or handling explosives precursors in any way, would be urged to ensure they have a written policy and procedures in place in order to control access to substances in their premises. Actions such as installing physical barriers and locks, carrying out regular inventories, and setting out clear processes to screen employees and service providers, such as transportation companies, would all contribute to establishing high levels of security around explosives precursors stored in business premises. In addition, Member States would be recommended to set out storage conditions on the granting of licences to the members of the general public, such as keeping the substances locked and having to report any thefts and disappearances within a specific period of time.

ANNEX 11: TABLE WITH OVERVIEW SCORES ASSESSMENT CRITERIA

Assessment criteria	Policy Option 1	Policy Option 2	Policy Option 3
<i>Coherence</i>	0	1.0	-0.5
<i>Effectiveness</i>	5.5	11.0	10.0
Align restrictions and controls with the evolving threat	1.0	2.0	2.0
Further restrict access and strengthen controls	0.5	2.0	2.5
Increase enforcement by the competent authorities of the Regulation	1.5	2.0	2.5
Improve the transmission of information and compliance along the supply chain	1.5	2.0	2.0
Improve the clarity of the Regulation and ensure uniformity in its application	0.5	2.0	-0.5
Facilitate intra-EU trade and prevent distortion of competition	0.5	1.0	1.5
<i>Economic impact</i>	0.5	-0.5	-2.5
Impacts on competition	0.5	1.0	1.5
Impacts on Consumers – members of the general public	0	-0.5	-2.0
Impacts on Consumers – professional users	0	-0.5	-0.5
Impacts on SMEs	0	-0.5	-1.5
<i>Social impact</i>	1.0	1.0	1.0
Impacts on labour market	0.5	-0.5	-1.0
Impact on public health	0.5	1.5	2.0
<i>Environmental impact</i>	0	-0.5	-0.5
<i>Impact on fundamental rights</i>	1.5	-0.5	-3.0
Protection of personal data	1.0	0	-1.5
Non-discrimination	0.5	0	0
Freedom to conduct business	0	-0.5	-1.5
<i>Efficiency</i>	1.5	-0.5	-9.5
Enforcement costs NCAs/NCPs	0	-0.5	-2.0
Administrative Burdens NCAs/NCPs	0.5	-0.5	-2.0
Administrative Burdens economic operators	0.5	0.5	-2.0
Compliance Costs economic operators	0.5	0.5	-2.0
Economic losses - economic operators	0	-0.5	-1.5
Total Scores	10	11	-5

NB. The preferred option in section 8 is based on the scores for efficiency, effectiveness and impacts on fundamental rights.

Annex 12: Sensitivity Analysis

The comparison in section 7 is based on four criteria: effectiveness, efficiency, fundamental rights and coherence. It was decided not to take the average scores of these four main criteria, as this would attach too much weight to fundamental rights and coherence criteria. In fact, many of the measures considered do not have a strong impact on fundamental rights. As regards coherence, all options have been designed in order to be coherent with other EU measures, which make this criterion marginal in the overall assessment.

Instead it was decided to aggregate scores by adding up the scores of all sub criteria. Effectiveness is hence assessed against 6 sub-criteria, Efficiency against 5, Fundamental rights impact on 3 and Coherence on one. As a result, the weights of the different criteria in the overall comparison are the following:

- Effectiveness : 40% (6 out of a total of 15 sub criteria)
- Efficiency 33% (5 out of 15)
- Fundamental rights impact: 20% (3 out of 15)
- Coherence: approx. 7% (1 out of 15)

Effectiveness, which measures the extent to which the different policy options meet the specific objectives, is the most important criterion counts for 40% of the assessment. Efficiency is given a weight of 33%, which is proportional to this criterion's importance. As explained above, the relative smaller weight attached to fundamental rights and coherence reflects that they are not as relevant as the other criteria in this IA.

The sensitivity analysis below compares the aggregate scores of the various criteria with the score that the options would obtain if equal weighting were given to all criteria, with the aim to assess the sensitivity of our comparison to such changes. The result of the analysis shows that if all four criteria are given the same weight, policy option 2 still has the highest overall score.

The scores in the impact assessment are the following:

Criteria (Weight)	Policy Option 1	Policy Option 2	Policy Option 3

Effectiveness (6/15)	5.5	11	10
Efficiency (5/15)	1.5	-0.5	-9.5
Fund. Rights (3/15)	1.5	-0.5	-3.0
Coherence (1/15)	0	1	-0.5
Total score	8.5	11	-3

- If all criteria were given the same weight, the scores would be:

Criteria Weight	Policy Option 1	Polciy Option 2	Policy Option 3
Effectiveness	0.92	1.83	1.66
Efficiency	0.3	-0.1	-1.9
Fund. rights	0.5	-0.17	-1.9
Coherence	0	1	-1.0
Total score	1.72	2.56	-1.74