

Technical Regulations TR CU 028/2012

In accordance with Article 3 of the Treaty on the Eurasian Economic Commission dated 18 November 2011, the Council of the Eurasian Economic Commission **decided**:

1. To adopt the Technical Regulation of the Customs Union "On the Safety of Explosives and Explosive-Based Articles" (TR CU 028/2012) (attached).
2. To establish that the Technical Regulation of the Customs Union "On the Safety of Explosives and Explosive-Based Articles" shall enter into force on 1 July 2014.

Note. Paragraph 2 as amended by Decision No. 11 of the Council of the Eurasian Economic Commission dated 17.03.2017; No. 123 dated 23.12.2020 (for the procedure for entry into force, see paragraph 2).

3. This Decision shall enter into force upon the expiry of 30 calendar days from the date of its official publication.

Members of the Council of the Eurasian Economic Commission:

<i>From the Republic of Belarus S. Rumas</i>	<i>From the Republic of Kazakhstan K. Kelimbetov</i>	<i>From the Russian Federation I. Shuvalov</i>
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ADOPTED
by Decision of the Council of the Eurasian
Economic Commission
dated 20 July 2012 No. 57

TECHNICAL REGULATION OF THE CUSTOMS UNION TR CU 028/2012 On the Safety of Explosives and Explosive-Based Articles

Table of Contents

Preamble

Article 1 Scope

Article 2 Definitions

Article 3 Rules for the Circulation on the Market of Explosives and
Explosive-Based Articles

Article 4 Marking of Explosives

Article 5 Safety Requirements

Article 6 Procedure for Issuing a Permit for Permanent Use
of Explosives and Explosive-Based Articles

Article 7 Conformity Confirmation of Explosives and
Explosive-Based Articles

Article 8 Marking with the Single Mark of Product Circulation of Explosives

and Explosive-Based Articles on the Market of the Member States

of the Customs Union

Article 9 Safeguard Clause

Appendices Nos. 1, 2, 3, 4, 5, 6.....16-23

PREAMBLE

1. This Technical Regulation of the Customs Union (hereinafter referred to as the Technical Regulation) has been developed in accordance with the Agreement on Common Principles and Rules of Technical Regulation in the Republic of Belarus, the Republic of Kazakhstan and the Russian Federation dated 18 November 2010.

2. This Technical Regulation establishes, within the single customs territory of the Customs Union, the necessary requirements for Explosives and Explosive-Based Articles, as well as for the related processes of manufacture, use, storage and carriage

(transportation).

3. This Technical Regulation has been adopted for the purpose of protecting human life and (or) health, property and the environment, and preventing actions that mislead consumers.

4. The provisions of this Technical Regulation are mandatory during the development, manufacture, storage, carriage (transportation) and use of Explosives and Explosive-Based Articles.

5. If other Technical Regulations of the Customs Union establishing requirements for Explosives and Explosive-Based Articles have been adopted in respect of Explosives and Explosive-Based Articles, the

Explosives and Explosive-Based Articles shall comply with the requirements of those Technical Regulations of the Customs Union whose scope applies to them.

Article 1. SCOPE

1. This Technical Regulation applies to:

- a) Explosives and Explosive-Based Articles developed (designed) and manufactured for using the energy of an explosion for industrial purposes;
- b) Explosives not directly used for using the energy of an explosion for industrial purposes, but used for the manufacture of Explosives and Articles specified in subparagraph a) of this Article, except for Initiating Explosives;
- c) emulsions and Oxidizer Matrices based on ammonium nitrate, developed (designed) and manufactured to produce water-emulsion and water-gel explosives.

2. This Technical Regulation does not apply to Explosives and Explosive-Based Articles classified as Defense Products, or to Pyrotechnic Products.

Article 2. DEFINITIONS

Explosive - a condensed chemical substance or mixture of such substances capable, under certain conditions and under the influence of external effects, of rapid self-propagating chemical transformation (explosion) with the release of a large amount of heat and gaseous products;

Explosive-Based Article - a compact mass of Explosive of finite dimensions, enclosed in a casing or without one, intended for use in the manufactured form independently or in combination with other Explosives;

Initiation Devices - articles containing Explosives and intended to initiate or transmit and initiate detonation;

use of Explosives and Explosive-Based Articles - performance of works or actions provided for by the intended purpose of the specified substances or articles, as well as preparation for their performance;

Initiating Explosive - a highly sensitive Explosive that readily detonates from simple initial impulses (impact, friction, heating, spark discharge) and is intended to initiate the detonation or ignition of other Explosives;

Packaging Marking of Explosives and Explosive-Based Articles, as well as Explosive-Based Articles - application of symbols and inscriptions to Consumer Packaging of Explosives and Explosive-Based Articles, as well as to Explosive-Based Articles;

marking of Explosives - introduction of a Marking Substance and (or) Microcarrier into Explosives during their manufacture, detectable by special methods;

Microcarrier - a material object containing information that makes it possible to identify the Explosive and its manufacturer;

Technical Documentation - documents (User Manual, Process Regulations, Design Documentation) establishing requirements for Explosives and Explosive-Based Articles;

Explosives Packaging - a means or set of means intended to protect Explosives and Explosive-Based Articles from damage and prevent exposure to atmospheric phenomena, prevent Explosives and Explosive-Based Articles from entering the environment, and ensure safe conditions for their storage, carriage (transportation) and use.

Article 3. RULES FOR THE CIRCULATION ON THE MARKET OF EXPLOSIVES AND EXPLOSIVE-BASED ARTICLES

Explosives and Explosive-Based Articles shall be placed on the market within the single customs territory of the Customs Union provided that they have undergone the necessary conformity confirmation procedures under this Technical Regulation and other Technical Regulations of the Customs Union applicable to them.

The Explosives specified in subparagraph a) of paragraph 1 of Article 1 of this Technical Regulation shall have a Permit for Permanent Use issued by one of the Authorized Bodies in the Field of Industrial Safety of a Member State of the Customs Union.

Article 4. MARKING OF EXPLOSIVES

1. Excluded by Decision No. 123 of the Council of the Eurasian Economic Commission dated 23.12.2020 (for the procedure for entry into force, see paragraph 2).

2. Excluded by Decision No. 123 of the Council of the Eurasian Economic Commission dated 23.12.2020 (for the procedure for entry into force, see paragraph 2).

3. The Packaging Marking of Explosives and Explosive-Based Articles, as well as Explosive-Based Articles, shall include:

the name (designation) of the Explosive or article;

the name of the manufacturing enterprise (supplier and (or) importer), as well as the Trademark (if any) and their legal address;

Classification Designations in accordance with Appendices 1–3 to this Technical Regulation;

the designation of the compliance of the Transport Packaging with mechanical strength requirements;

the designation of the Technical Specifications or standards in accordance with which the products were manufactured, if those standards were applied;

the Guaranteed Storage Life;

information on conformity confirmation of the products with the requirements of this Technical Regulation.

Note. Paragraph 3 as amended by Decision No. 123 of the Council of the Eurasian Economic Commission dated 23.12.2020 (for the procedure for entry into force, see paragraph 2).

4. Additional information that does not alter the substance of the requirements established by this Article may be applied to Explosive-Based Articles.

5. The marking shall be clear, legible and resistant to various effects (moisture, light, salt, high and low temperatures) that may occur during transportation, and shall remain intact throughout the Guaranteed Storage Life of the Explosives and Explosive-Based Articles.

Article 5. SAFETY REQUIREMENTS

1. Classification of Explosives and Explosive-Based Articles:

1.1. For the purposes of use in Blasting Operations, depending on the conditions of use, the Explosives and Explosive-Based Articles specified in subparagraph (a) of paragraph 1 of Article 1 of this Technical Regulation are divided into seven classes and a special class which, depending on the specific conditions of use, is divided into four groups. The classes and groups of Explosives, as well as the color of the shells of Cartridges

(packs) or the distinctive stripe applied to the shells of Cartridges (packs) and to Transport Packaging depending on the type of Explosives and conditions of use, are specified in Annex 1 to this Technical Regulation;

1.2. Explosives and Explosive-Based Articles are divided into six Explosives Divisions depending on the degree of hazard they represent, and into eight Compatibility Groups, which establish the types of Explosives and Explosive-Based Articles considered compatible;

the Explosives Divisions, Compatibility Groups and Classification Codes of Explosives and Explosive-Based Articles of Class 1 are set out in Annexes 2 and 3 to this Technical Regulation, respectively.

1.3. For the purposes of carriage (transportation) and storage, Explosives and Explosive-Based Articles are assigned to Class 1 according to the classification established on the basis of the international principles for the classification of Dangerous Goods governed by the United Nations Model Regulations.

2. Safety requirements for Explosives and Explosive-Based Articles:

2.1. Technical Documentation shall be prepared by the manufacturer for Explosives and Explosive-Based Articles. A User Manual shall not be prepared for the Explosives specified in subparagraph (b) or for the emulsions and matrices specified in subparagraph (c) of paragraph 1 of Article 1 of this Technical Regulation.

The Technical Documentation for Explosives and Explosive-Based Articles shall specify the characteristics affecting their safety (during manufacture, storage, transportation (carriage) and use), the requirements for packaging and containers, and information on the marking of the Explosives, and shall also specify the parameters subject to incoming inspection by the consumer;

2.2. The User Manual shall contain the following information:

the name and designation of the Explosives and Explosive-Based Articles;

intended purpose and scope of use;

scope of supply;

technical parameters determining the consumer properties of the Explosives and Explosive-Based Articles (separately monitored and unmonitored parameters);

fire and explosion hazard indicators and electrostatic hazard indicators;

description of the packaging and, where necessary, the procedure for opening and destroying it (or returning it) after use;

specification of the Dangerous Goods Class and Compatibility Group;

use of mechanized operations in warehouses and at the place of use, specifying the method of mechanization;

procedure for returning unused Explosives and Explosive-Based Articles to the warehouse;

safety requirements for handling Explosives and Explosive-Based Articles (maximum permissible concentrations of hazardous substances in the air of the work area, the effect of the substances on the human body, measures and means of protection against harmful effects, and fire-extinguishing equipment);

method of placing the Explosives or Explosive-Based Article in a Blast Hole or Borehole;

initiation method;

characteristics of Explosives and Explosive-Based Articles to be checked upon receipt at the consumer's warehouse and during storage in the warehouse;

storage conditions, Guaranteed Storage Life, measures to be taken after expiry of the Guaranteed Storage Life, and the procedure and methods for destruction;

personnel qualification requirements;

procedure for personnel actions in emergency situations;

procedure for eliminating failures.

The manufacturer shall provide the consumer with a User Manual for Explosives (except for the Explosives specified in subparagraph (b) and the emulsions and matrices specified in subparagraph (c) of paragraph 1 of Article 1 of this Technical Regulation) and for Explosive-Based Articles;

2.3. The list of parameters necessary for the Safety Assessment of Explosives during their development is set out in Annex 4 to this Technical Regulation;

2.4. Explosives shall not be permitted for use if, according to the results of Impact Sensitivity tests, the lower limit is less than 100 mm, or if, in Friction Sensitivity tests, the lower limit is less than 200 МПа;

2.5. Ammonium Nitrate Emulsion shall have a density exceeding the value at which it could be assigned to Class 1 according to the test methods established on the basis of the international principles for the classification of Dangerous Goods;

2.6. Different groups of Explosive-Based Articles shall, under the conditions of manufacture, packaging, transportation and storage and use specified in the Technical Documentation:

- (a) exclude the possibility of premature explosion;
- (b) reliably detonate when initiated by Initiation Devices;
- (c) ensure the transmission of detonation from one article to another, taking into account the conditions of their placement during use;
- (d) ensure sufficient strength of the shell or casing to prevent damage under mechanical loads;
- (e) ensure the required Water Resistance;
- (g) exclude the initiation of an explosion in a potentially explosive atmosphere if they are designed and manufactured for use therein;
- (h) ensure the retention of the specified characteristics within the operating temperature range;
- (i) ensure the retention of the specified characteristics throughout the Guaranteed Storage Life;
- (f) ensure resistance to static electricity;

2.7. Requirements for electric detonators and waveguides:

- (a) electric detonators shall have the following characteristics:

safe current value of at least 0,18 A;

continuous ignition current of at least 0,22 A; safe ignition impulse of at least 0,6 A²·mc;

- (b) waveguides (shock tubes) of non-electric initiation systems shall not initiate, through their lateral surface, the detonation of Explosives and other Initiation Devices in contact with them;

2.8. The manufacturer shall specify the control methods for the parameters of Explosives and Explosive-Based Articles provided for in the Technical Documentation.

3. Safety requirements for the manufacture of Explosives and Explosive-Based Articles:

3.1. Explosives (except for the Explosives specified in subparagraph (b) and the emulsions and matrices specified in subparagraph (c) of paragraph 1 of Article 1 of this Technical Regulation) and Explosive-Based Articles may be manufactured subject to a Permit for Permanent Use issued by one of the Authorized Bodies in the Field of Industrial Safety of a Member State of the Customs Union;

3.2. Explosives and Explosive-Based Articles shall possess technical characteristics, the requirements for which are established by this Technical Regulation, in order to guarantee the highest possible level of safety;

3.3. The manufacture of Explosives and Explosive-Based Articles shall be carried out in accordance with the Technical Documentation and the requirements of this Technical Regulation;

3.4. The Process Regulations shall specify the parameters to be checked during incoming inspection of the components and raw materials used to manufacture Explosives and Explosive-Based Articles;

3.5. The parameters of technological processes affecting the specified characteristics of manufactured Explosives and Explosive-Based Articles shall be specified in the Process Regulations and Design Documentation with an accuracy ensuring reproducibility of their characteristics;

3.6. The parameters of technological processes affecting the specified characteristics of manufactured Explosives and Explosive-Based Articles

shall be documented during their manufacture. The retention period for the documented records shall be no less than the Guaranteed Storage Life of the Explosives and Explosive-Based Articles;

3.7. The manufacturer of Explosives and Explosive-Based Articles shall conduct the necessary tests (measurements) provided for in the Technical Documentation for such Explosives and Explosive-Based Articles;

3.8. The organization of technological processes shall exclude the possibility of substances or items affecting their properties or safety during carriage (transportation), storage or use entering finished Explosives and Explosive-Based Articles, and shall also exclude the possibility of defective Explosives and Explosive-Based Articles or production waste being mixed with finished Explosives and Explosive-Based Articles.

4. Packaging requirements.

Packaging shall be strong, completely prevent leakage or spillage of Explosives or the falling out of articles, ensure their preservation and safety during carriage (transportation) by all modes of transport under all climatic conditions, including during loading and unloading operations, and during storage.

5. Safety requirements for the use of Explosives and Explosive-Based Articles:

5.1. Explosives and Explosive-Based Articles shall be tested by the consumer to determine their safety during storage and use in accordance with the parameters specified in the Technical Documentation:

(a) upon receipt from the manufacturer (incoming inspection);

(b) if there are doubts as to their quality (based on visual inspection or unsatisfactory results of Blasting Operations (incomplete explosions, failures));

(c) before expiry of the Guaranteed Storage Life.

The test results shall be documented in a report, followed by an entry in the test log;

5.2. Explosives and Explosive-Based Articles with an expired Guaranteed Storage Life shall not be used or stored without the tests provided for in the Technical Documentation.

6. Safety requirements for the carriage (transportation) of Explosives and Explosive-Based Articles.

The carriage (transportation) of Explosives and Explosive-Based Articles shall be carried out in accordance with the rules and regulations for the carriage of Dangerous Goods in force in the single customs territory of the Member States of the Customs Union.

7. Safety requirements for the storage of Explosives and Explosive-Based Articles:

1) Storage conditions shall exclude the influence of the environment on the characteristics of Explosives and Explosive-Based Articles and comply with the requirements of regulatory and/or Technical Documentation, including the User Manual;

2) Explosives and Explosive-Based Articles in warehouses shall be placed taking into account their compatibility during storage;

7.3. Temporary storage in warehouses of unusable and defective Explosives and Explosive-Based Articles shall be carried out only in a specially designated area marked with the warning notice "ATTENTION:

DEFECTIVE". A sign bearing the same notice shall be attached to the packaging containing unusable and defective Explosives and Explosive-Based Articles, and/or the same notice shall be applied to the packaging;

7.4. If the parameters obtained as a result of tests do not correspond to the parameters specified in the Technical Documentation, the Explosives and Explosive-Based Articles shall not be permitted for use and shall be destroyed as soon as possible.

Article 6. PROCEDURE FOR ISSUING A PERMIT FOR PERMANENT USE OF EXPLOSIVES AND EXPLOSIVE-BASED ARTICLES

1. A Permit for Permanent Use issued by one of the Authorized Bodies in the Field of Industrial Safety of a Member State of the Customs Union (hereinafter referred to as the Permit) shall be issued for new Explosives and Explosive-Based Articles specified in subparagraph a) of paragraph 1 of Article 1 of this Technical Regulation.

2. To obtain the Permit, the applicant shall submit an application to the Authorized Body in the Field of Industrial Safety of a Member State of the Customs Union, accompanied by the Acceptance Test Report for the pilot batch and the Industrial Safety Expert Opinion.

3. The Permit for new Explosives and Explosive-Based Articles shall be issued by the Authorized Body in the Field of Industrial Safety of a Member State of the Customs Union after Verification Tests and Acceptance Tests have been conducted under production conditions in accordance with the national legislation of the Member State of the Customs Union.

4. The commission conducting the tests shall include representatives of the manufacturer, developer, organization where the tests are conducted, expert organization, Authorized Body in the Field of Industrial Safety of the

Member State of the Customs Union, and other bodies (subject to agreement).

5. The mass of the pilot batches of Explosives required for conducting Acceptance Tests is specified in Annex 5 to this Technical Regulation.

For the special class of Explosives specified in Annex 1 to this Technical Regulation, the mass of the pilot batch of Explosives, the quantity of Initiation Devices, charges and charging kits for perforation and Blasting Operations shall be established by the developer in the test programme and methodology agreed with the expert organization and the Authorized Body in the Field of Industrial Safety of the Member State of the Customs Union.

6. The Permit shall be issued in the form set out in Annex 6 to this Technical Regulation and shall have equal effect in the territories of the Member States of the Customs Union.

Article 7. CONFORMITY CONFIRMATION OF EXPLOSIVES AND EXPLOSIVE-BASED ARTICLES

1. Explosives and Explosive-Based Articles placed on the market in the single customs territory of the Member States of the Customs Union shall be subject to conformity confirmation with the requirements of this Technical Regulation.

Conformity confirmation with the requirements of this Technical Regulation shall be carried out in the form of certification.

2. Conformity confirmation is not required for Explosives and Explosive-Based Articles manufactured for the manufacturer's own needs.

3. Certification of Explosives and Explosive-Based Articles shall be carried out under schemes 3c, 7c, 8c and 9c in accordance with the Regulation on

the Procedure for Applying Standard Conformity Assessment (Conformity Confirmation) Schemes in the Technical Regulations of the Customs Union, approved by Decision No. 621 of the Commission of the Customs Union dated 7 April 2011.

4. In certification, the applicant may be a Legal Entity registered in accordance with the legislation of the Member States of the Customs Union and being the manufacturer or a person performing the functions of a foreign manufacturer.

Certification shall be carried out by accredited certification bodies (for conformity assessment (conformity confirmation), included in the Unified Register of Conformity Assessment Bodies and Testing Laboratories (Centers) of the Customs Union.

Tests for the purposes of conformity confirmation shall be conducted by accredited testing laboratories (centers) included in the Unified Register of Conformity Assessment Bodies and Testing Laboratories (Centers) of the Customs Union.

If the results of the inspections provided for by the certification schemes specified in paragraph 3 of this Article are positive, the certification body shall issue the certificate of conformity and provide it to the applicant.

The validity period of the certificate of conformity shall be established depending on the type and intended use of the Explosives and Explosive-Based Articles, the certification scheme selected, and the planned period for placing the Explosives and Explosive-Based Articles on the market, but shall not exceed 3 years.

Article 8. MARKING WITH THE SINGLE MARK OF PRODUCT CIRCULATION ON THE MARKET OF THE MEMBER STATES OF THE CUSTOMS UNION

1. Explosives and Explosive-Based Articles that comply with the requirements of this Technical Regulation and the requirements of other Technical Regulations of the Customs Union applicable to them, have undergone the conformity assessment (conformity confirmation) procedure in accordance with Article 7 of this Technical Regulation of the Customs Union, and have the Permit shall bear the single mark of product circulation on the market of the Member States of the Customs Union.

2. The single mark of product circulation on the market of the Member States of the Customs Union shall be affixed before the Explosives and Explosive-Based Articles are placed on the market in the single customs territory of the Member States of the Customs Union.

3. The single mark of product circulation on the market of the Member States of the Customs Union shall be affixed to the Consumer Packaging (containers) of Explosives and Explosive-Based Articles, except for Explosives and Explosive-Based Articles manufactured at the places of use and having no packaging, and to Explosive-Based Articles by any method ensuring that its image remains clear throughout the Guaranteed Storage Life.

Article 9. SAFEGUARD CLAUSE

The Member States of the Customs Union shall take all measures to restrict or prohibit the placing on the market of Explosives and Explosive-Based Articles in the single customs territory of the Customs Union, as well as to withdraw from the market Explosives and Explosive-Based Articles that do not comply with the safety requirements of this Technical Regulation of the Customs Union or are supplied or in circulation without a

Conformity Assessment Document and (or) without the single mark of product circulation on the market of the Member States of the Customs Union.

The Competent Authority of a Member State of the Customs Union shall, within 1 month, notify the Competent Authorities of the other Member States of the Customs Union of the decision taken, stating the reasons for that decision and providing evidence explaining the necessity of taking this measure.

Annex 1
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

Classes and Groups of Explosives and Conditions of Their Use

Class of Explosives	Groups of Explosives	Type of Explosives and conditions of use	Color of the distinguishing stripe or of the wrappers of Cartridges (packs)
1	2	3	4
I	-	Non-Permitted Explosives for blasting only on the ground surface	White

II		Non-Permitted Explosives for blasting on the ground surface and at faces of underground workings in which either there is no emission of combustible gases or explosive coal (shale) dust, or inerting of the near-face space is applied, which prevents ignition of an explosive atmosphere during Blasting Operations	Red
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III		Permitted Explosives for blasting only in rock at faces of underground workings in which there is emission of combustible gases, but no explosive coal (shale) dust	Blue
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IV		Permitted Explosives for blasting: in coal and (or) rock or oil shale at faces of underground workings hazardous due to explosion of coal (shale) dust in the absence of emission of combustible gases; in coal and (or) rock at faces of underground workings driven in a coal seam in which there is emission of combustible gases, except workings with increased emission of combustible gases; for shock blasting at faces of underground workings of coal mines	Yellow
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V		Permitted Explosives for blasting in coal and (or) rock in workings with increased emission of combustible gases driven in a coal seam, where contact of the lateral surface of the Blast Hole charge with the gas-air mixture present either in rock mass fissures intersecting the Blast Hole, or in the working, is excluded	Yellow
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VI		Permitted Explosives for blasting: in coal and (or) rock in workings with increased emission of combustible gases driven under conditions where contact of the lateral surface of the Blast Hole charge with the gas-air mixture present either in fissures of the rock mass intersecting the Blast Hole, or in the working, is possible; at coal and mixed faces of rising (more than 10°) workings in which combustible gas is emitted, where the workings are more than 20 m long and are driven without pre-	Yellow
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VII		Permitted Explosives and articles made of Permitted Explosives of classes V - VI for special Blasting Operations (water spraying and dispersion of powdered inhibitors, blasting of wooden props during roof caving, elimination of hang-ups of broken rock in coal chute workings, breaking of oversize pieces) at faces of underground workings in which formation of an explosive concentration of combustible gas and coal dust is possible	Yellow
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Special (S)	-	Non-Permitted and permitted Explosives and Explosive-Based Articles intended for special Blasting Operations, except at faces of underground workings in which formation of an explosive concentration of combustible gas and coal (shale) dust is possible	
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1	Blasting Operations on the ground surface: explosive pulse treatment of metals; initiation of Borehole and concentrated charges; contour blasting for bench slope trimming; breaking of frozen soils; breaking of oversize pieces of broken rock; seismic	White
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2	Blasting Operations at faces of underground workings not hazardous in terms of gas and (or) coal (shale) dust; blasting of sulfide ores; breaking of oversize pieces of broken rock; contour blasting, other special operations	Red
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3	Perforating and blasting operations in exploration, oil and gas wells	Black
4	Blasting Operations in sulfur, oil and other mines hazardous due to explosion of sulfur dust, hydrogen and heavy hydrocarbon vapors	Green

Annex 2
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

Divisions of Explosives and Explosive-Based Articles

Division number	Name of the division
1.1	Explosives and Explosive-Based Articles that are capable of mass explosion
1.2	Explosives and Explosive-Based Articles that do not explode en masse, but present, on explosion, a hazard of projection and substantial damage to surrounding objects
1.3	Explosives and Explosive-Based Articles that present a fire hazard and do not explode en masse
1.4	Explosives and Explosive-Based Articles that present a minor explosion hazard during transportation only in the event of ignition or initiation. The effect of the explosion is confined to the package. An external source of initiation must not cause instantaneous explosion of the package contents

1.5	Explosives and Explosive-Based Articles with a mass explosion hazard, but with very low sensitivity, for which under normal conditions of transportation initiation or transition from burning to detonation must not occur
1.6	Explosive-Based Articles of extremely low sensitivity that do not explode en masse and are characterized by a low probability of accidental initiation. The hazard posed by articles of Division 1.6 is limited to the explosion of a single article

Annex 3
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

Compatibility Groups of Explosives and Explosive-Based Articles

Compatibility Group	Name of the substance, article	Classification Code
1	2	3
B	Articles containing Initiating Explosives and having fewer than two independent safety features. Also included are articles such as detonators, detonator assemblies and primers not containing an Initiating Explosive	1.1B 1.2B 1.4B
C	Propellant Explosives and articles (smokeless powder)	

D	Explosives and Explosive-Based Articles without Initiation Devices and propellant charges; articles containing Initiating Explosives and having two or more independent safety features	1.1D 1.2D 1.4D 1.5D
E	Articles containing Explosives without Initiation Devices, but with a propellant charge (other than those containing a flammable liquid or gel or a pyrophoric liquid)	1.1E 1.2E 1.4E
F	Articles containing secondary detonating Explosives, Initiation Devices and propellant charges, or without propellant charges	1.1F 1.2F 1.3F 1.4F

G	Pyrotechnic substances and articles containing them	1.1G 1.2G 1.3G 1.4G
S	Explosives or articles packed or designed so that in the event of accidental functioning any hazardous effect is confined within the package itself, and if the packaging has been damaged by fire, the effect of explosion or projection is limited so as not to hinder emergency response measures or firefighting in the immediate vicinity of the package	1.4S
N	Articles containing Explosives of extremely low sensitivity	1.6N

Annex 4
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

List of Indicators Required for the Safety Assessment of Explosives during Their Development

Impact Sensitivity
Friction Sensitivity
TNT Equivalent
Critical Detonation Diameter
Minimum Initiating Impulse
Thermal Stability
Specific volume electrical resistivity (for water-containing Explosives, only for emulsion substances)
Volume of harmful gases in the explosion products
Critical density
Compatibility with structural materials
Permissibility (safety) properties (for Permitted Explosives)

Compatibility with aggressive media (for Explosives used in sulfide deposits)

Water Resistance

Annex 5
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

Minimum Mass of an Explosives Batch Required for Acceptance Tests

Field of Application of Explosives	Mass of Explosives, tonnes
Explosives for underground operations with manual charging of blast holes and boreholes	3
Explosives for underground operations with mechanized charging of blast holes and boreholes	5
Explosives for underground operations with mechanized charging of blast holes and boreholes	3
Explosives for underground operations with mechanized charging of blast holes and boreholes	50
Permitted Explosives	5
Explosives intended for surface operations	1000 (sets)

Cartridged explosives, blocks and other unit explosives intended for the manufacture of primers for surface and underground operations
Non-electric initiation systems

Annex 6
to the Technical Regulation
"On the Safety of Explosives and Explosive-Based Articles"

Form

Permit for Permanent Use of Explosives and Explosive-Based Articles

Name of the supervisory authority of the Customs Union Member State

Permit for the Use of Explosives and Explosive-Based Articles

Date No.

Name of the explosive or article

Number of the Technical Specifications (standard)

Developer:

Manufacturer (manufacturers):

Certificate of State Registration of the manufacturer (manufacturers)

(No. and date of issue, name of the body that issued the certificate)

CU Customs Tariff Number

Grounds for issuing the permit

Transport Hazard Class	Transport Hazard Division	Compatibility Group	UN Number	Emergency Response Code (ERC)

Purpose, field and conditions of use

Additional requirements

(signature and full name of the

supervisory authority representative)

Place for seal

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