MATERIAL SAFETY DATA SHEET

POLADYN 31 ECO
Dynamite Explosive

SECTION 1: Substance & Company Identification

1.1.Product name:

POLADYN 31 ECO

Product with trade names as following:

POLADYN 31 ECO in cartridges in paper, plastic foil, and polyethylene tubes.

1.2. Application of the product

DYNAMITE EXPLOSIVES are intended to be used in underground mines and quarries for mining of compact beds and rocks in conditions free of coal-dust and/or methane explosion risk.

1.3. Manufacturer: NITROERG S.A.
43-150 Bieruń
Plac Alfreda Nobla 1

Manufacturing plant: NITROERG S.A. ul. Zawadzkiego 1, 42-693 Krupski Młyn

1.4. UK supplier: BREXCO,
York Eco Business Centre,
Amy Johnson Way,
Clifton Moor, York YO30 4AG United Kingdom
Tel: +44 (0) 1904 785 500 Email: office@brexco.co.uk

Contact details: Richard Parkin: office@brexco.co.uk
Emergency telephone number (24hr) Tel: +44 (0) 7954 408 377

SECTION 2: Hazard Identification

Classification of the mixture according to Directive 67/548/EEC

E	**R 2**
T+	**R 26/27/28**
	R 33
	R 52-53

2.1.2 Classification of the mixture according to Regulation (EC) No. 1272/2008

Expl. 1.1	**H201**
Acute Tox. 2	**H330**
Acute Tox. 1	**H310**
Acute Tox. 2	**H300**
STOT RE 2	**H373**
Aquatic Chronic 3	**H412**

2.2 Label elements

Below mentioned elements of marking are used only in transport of not elaborated explosive between operations.

Note: In accordance with the Regulation of the Minister of Health of 5 March 2009 on the labelling of hazardous substances and hazardous preparations, packages with explosives are not labelled under that regulation but under the ADR regulations. This labelling is discussed in Section 14.

According to EEC Directive 67/548

E – Explosive

R 2	Risk of explosion by shock, friction, fire and/or other sources of energy.

T+ – very toxic

R 26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R 33	Danger of cumulative effects.
R 52-53	Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety advice concerning the mixture (S-phrases):

S 1	–	Keep locked up.
S 20/21	–	When using do not eat, drink or smoke.
S 35	–	This material and its container must be disposed of in a safe way.
S 36	–	Wear suitable protective clothing.
S 41	–	In case of fire and/or explosion do not breathe fumes.
S 45	–	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

According to Regulation (EC) No. 1272/2008

Expl. 1.1 Explosive subcategory 1.1	H201	Explosive; Risk of massive explosion.
Acute Tox. 1 Acute toxicity dermal, category 1	H310	Fatal in contact with skin.
Acute Tox. 2 Acute toxicity oral and inhalation, category 2	H300 H330	Fatal if swallowed. Fatal if inhaled.

STOT RE 2 Target organ toxicity - repeated exposure, category 2	H373	May cause damage to circulatory system in the consequence of long-term exposure or repeated exposure via inhalation or ingestion.
Aquatic Chronic 3 Poses hazard to aquatic life, category 3	H412	Harmful to aquatic organisms, causes long-lasting effects.

Precautionary statements (P-phrases):

P210:	–	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P270:	–	Do not eat, drink, or smoke when using this product.
P302+P352:	–	IF ON SKIN: Gently wash with plenty of soap and water.
P370:	–	In case of fire: Do not breathe fume.
P372:	–	Explosion risk in case of fire.
P373:	–	DO NOT fight fire when fire reaches explosives.
P312:	–	Call a POISON CENTRE or doctor/physician if you feel unwell.
P501:	–	Dispose of contents/container (to) in a safe manner.
P101:	–	If medical advice is needed, have product container or label at hand.

2.1. Threat with the explosion

E – Explosives R 2

There is threat of explosion as a result of the impact, friction, the interaction of fire and other energy factors. Decomposition of the explosive occurs when the temperature exceeds 140°C. Very toxic oxides and nitrogen are produced during the heating and the incineration.

2.2. Remaining threats

2.2.1. Fire threat

The burning of small quantities should take place safely in open spaces. Burning small or large quantities in confined and /or closed spaces are liable to detonate resulting in fire as a secondary effect.

2.2.2. Eco-toxic threat

The product is insoluble in water; a threat of the pollution of ground does not occur.

2.3 Other hazards

The mixture is an explosive material decomposing at temperatures exceeding 165°C. Heating and combustion of the material yield highly toxic nitrogen oxides. The product burns gently if in small quantities and in the open air. Combustion of small quantities in enclosed space or combustion of large quantities turns into explosion. Fire may occur also as a secondary effect of detonation.

SECTION 3: Composition & Ingredients Information

3.1. Substance: Not applicable

3.2. Mixtures

3.2.1

Nitroglycerin (propane-1,2,3-triyl trinitrate) 4.0 % < c < 22.2 %	
Index number:	603-034-00-X
CAS number:	55-63-0
EINECS number:	200-240-8
EChA registration number:	01-2119488893-18-0000
Notification report:	XZ887687-62
Date of notification:	17 September 2010
Lead registrant:	NITROERG S.A.
UN number:	for pure state substances not specified

Classification of the substance:

According to Directive 67/548/EEC

E R 3

T+ R 26/27/28

R 33

N R 51-53

According to Regulation (EC) No. 1272/2008

Unst. Expl.	H200
Acute Tox. 2	H330
Acute Tox. 1	H310
Acute Tox. 2	H300
STOT RE 2	H373
Aquatic Chronic 2	H411

Danger

Nitroglycol (1,2-Ethanediol dinitrate) 8.8%< c < 29.6 %

Index number:	603-032-00-9
CAS number:	628-96-6
EINECS number:	211-063-0
EChA registration number:	01-2119492860-31-0001
Notification report:	JU951802-11
Date of notification:	25 November 2010
UN number:	for pure state substances not specified

Classification of the substance:

According to Directive 67/548/EEC

E R 2

T+ R 26/27/28

R 33

According to Regulation (EC) No. 1272/2008

Unst. Expl.	H200
Acute Tox. 2	H330
Acute Tox. 1	H310
Acute Tox. 2	H300
STOT RE 2	H373

Danger

Nitrocellulose 0,7 % < c < 1,1 %

Index number:	603-037-00-6
CAS number:	not determined
EINECS number:	not determined

Classification of the substance:

According to Directive 67/548/EEC

E R 3

According to Regulation (EC) No. 1272/2008

Expl. 1.1 H201

Danger

Ammonium nitrate (V) 30 % < c < 70 %

CAS number:	6484-52-2
EINECS number:	229-374-8
EChA registration number:	01-2119490981-27-0025

Classification of the substance:

According to Directive 67/548/EEC

O R 8

Xi R 36

According to Regulation (EC) No. 1272/2008

Ox. Sol. 3 H272

Eye Irrit. 2 H319

Note:

3.2.2 Mixtures not classified as hazardous

The other components of the mixture are not classified as hazardous.

These components are strongly tied and stabilized by the emulsifier.

SECTION 4: First Aid Procedures

4.1 First Aid

a) **If inhaled:** Call a doctor. Remove the injured person from the endangered area. Place him in a quiet area, in any comfortable position. Gases released from a burning product or during explosive decomposition of products may be harmful for human health as well. In the case of intoxication by blasting gases, take the injured person from the endangered area and call a doctor.

b) **Skin contact:** In the case of skin contact with the product, remove clothes and rinse the contaminated area with copious water and soap. If skin changes occur or the victim gets worse, get medical assistance.

c) **Eye contact:** Call a doctor. Rinse with copious water for several minutes. Use running water if possible (however, avoid strong jets of water because of the risk of mechanical damage to the eyes).

d) **Ingestion:** Call a doctor. Give the injured person plenty of water to drink and, if available, medicinal carbon. Induce vomiting.

4.2 Critical acute and latent symptoms and effects of exposure

a) **Inhalation poisoning**: dilation of blood vessels resulting in lowering blood pressure, headache and disarray; the risk of loss of consciousness;

b) **Skin contamination**: skin changes (irritation), skin absorption produces similar effects as in inhalation poisoning,

c) **Eye contamination**: eye contact causes eye watering and redness.

d) **Poisoning through the alimentary tract**: if swallowed, the product causes irritation of mouth, oesophagus and digestive tract, and similar symptoms as in inhalation poisoning.

4.3 Indications concerning immediate medical attention and special proceeding with a poisoned person

If inhaled: in the case of breathing disturbances intubate, apply artificial breathing and give oxygen. If arterial blood pressure drops considerably, administer liquids intravenously (5% glucose, 0.9% NaCl or Dextran 4000, or dopamine as an intravenous drop). Transport to the hospital in a resuscitation ambulance without stopping the treatment.

Skin contact: Proceed as in inhalation.

Ingestion: Proceed as in inhalation.

SECTION 5: Procedures In Case Of Fire

5.1 Extinguishing Media

Suitable extinguishing media:

If the explosive is not involved directly by the fire, use suitable fire extinguishing media and methods; prevent the fire from spreading on the product. If the mixture is not involved by the fire, use water from a safe distance, carbon dioxide, extinguishing powders, alcohol-resistant foams.

Unsuitable extinguishing media:

Do not use water in the vicinity of any wiring systems.

5.2 Special hazards arising from substance or mixture

Do not extinguish fire if it has reached the charge area.

Explosion hazard if fire reaches the charge area.

Combustion yields nitrogen oxides.

5.3 Advice for firefighters

If the product is involved by the fire, do not try to extinguish it. Withdraw from the endangered area and allow the material to burn out. In the case of the fire, evacuate immediately all people from the endangered area. During evacuation, use natural covers, avoid immediate eye contact with the accident area, and forbid others to stay close to windows. Stop all the traffic and close the endangered area within a 500 m radius. Remove the unnecessary personnel. Do not extinguish the fire inside the charge. Use air-isolating breathing apparatuses and action fire-fighting clothing as a primary protection.

In case of fire of the means of transport, detach truck tractor from trailer (if possible).

Special protective equipment during the rescue operation:

It is necessary to wear protective, gastight clothing with the apparatus isolating the respiratory tract.

SECTION 6: Procedure In Case Of Unintentional Release Into The Environment

6.1 Personal precautions, protective equipment and emergency procedures

Use air-isolating breathing apparatuses and action fire-fighting clothing as a primary protection.

6.2 Environmental precautions

Alarm all the people remaining in the vicinity about the danger. Protect the explosive product and contaminated area against unauthorised people. Eliminate all sources of ignition (extinguish any open fire, announce smoking ban).
Avoid breathing in product fumes. In case of a major accident or danger, call the fire brigade and police.
If thepackages have been damaged, collect all spilled material into a tight packaging such as a PE bag.
Avoid sparking.
Useprotective gloves while collecting spilled products. Prevent the product from entering into the sewerage system, surface and underground water. Any waste products should be eliminated in accordance with Section 13.

6.3 Methods and material for containment and clean up

The hazard of air, soil and water contamination is negligible since it is not probable that significant amounts of the mixture may penetrate to the environment. If it penetrates into waters, ammonium nitrate is extracted and nitroglycerin and nitroglycol are released on the bottom. Both nitroglycerine and nitroglycol are biodegradable.

6.4 Reference to other sections

Handle any waste explosive material according to Section 13.
Accident during transport:
Notify the Police and / or BREXCO telephone: 07954 408377 (24 hour service)

SECTION 7: Handling & Storage

7.1 Precautions for safe handling

While handling the product, comply with basic precaution measures. Avoid eating, drinking and any skin contact with the product. Do not inhale fumes. Keep personal hygiene. Ensure sufficient ventilation at the work place. Do not use tools likely to generate sparks. Prevent the product from an open flame, high temperatures and mechanical shocks. Protect the product against weather conditions such as direct sunlight, precipitation, etc.

7.2 Conditions for safe storage, including any incompatibilities

Keep the product only in storage places which fully comply with legal regulations relating to explosives.
The storage temperature should be:

Poladyn 31 Eco - from 5 to 30 °C

Storage:

- In authorised storage units according local law, suitable for Class 1.1D,
- Keep locked up,
- Do not smoke and keep away from ignition source,
- Temperature of storage 10ºC to 30ºC
- Protect against direct sunlight, rain and snowfall.

Common storage:

Storing with other materials: Only with materials classified as Class 1, Compatibility Group: C, D, E, G and S, as specified by ADR rules. The quantities of materials stocked in a storage place are strictly limited by legal regulations.

Storage conditions: Normal temperature and humidity.
Packaging material: Recommended in the original containers.

7.3 Specific end uses

Identified uses listed in Section 1.2.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control parameters

For nitroglycerin fumes

NDS	0.5mg/m
NDSCh	1 mg/m

For nitroglycol fumes

NDS	0.3mg/m
NDSCh	0.4 mg/m

Total exposure: a sum of all ratios of the concentrations up to the value of NDSs <1.

8.2 Exposure controls

8.2.1 Occupational exposure controls

PN-Z-04008.07:2002 Air preservation. Taking samples. General provisions. Taking samples in work environment and interpretation of results

PN-89/Z-04212/02 Air preservation. Determining nitroglycol contents. Determining nitroglycol at the work station using gas chromatography.

PN-89/Z-04213/02 Air preservation. Determining nitroglycerin contents. Determining nitroglycerin at the work station using gas chromatography.

8.2.2 Personal protection equipment

No personal protection equipment is required when working with elaborated explosives.

SECTION 9: Chemical & Physical Characteristics

9.1 Information on basic physical and chemical properties

State of aggregation at 20°C	solid
Appearance	homogenous plastic mixture in cartridges, in paper and plastic envelopes, and in polyethylene tubes
Colour	pink, in the shades from pink to brown
Odour	characteristic for nitroesters
Decomposition temperature	over 165 °C
Shock sensitivity	no reaction to at least 2 J
Friction sensitivity	no reaction to at least 80 N
Water solubility at 20 °C	with extraction of soluble matters

9.2 Other information

Sensitivity coefficients:

	Mechanical sensitivity coefficient	Thermal sensibility coefficient	SENSITIVITY COEFFICIENT
	R_m	R_t	R_w
Poladyn 31 Eco	**2.45**	**2.53**	**2.49**

SECTION 10: Stability & Reactivity

10.1 Reactivity

The product is sensitive to mechanical, thermal and electrical impulses.

10.2 Chemical stability

In ambient temperatures the product is stable.

10.3 Possibility of hazardous reactions

High temperatures, mechanical shocks, friction, electrical spark and other energy media may induce an explosive reaction.

10.4 Conditions to avoid

Avoid contact with open flames, high temperatures and static electricity. Avoid mechanical shocks, friction and other energy media.

10.5 Incompatible materials

See subsection 14.6.

10.6 Hazardous decomposition products

Products of explosion: water, nitric oxides, carbon monoxides, nitrogen.
Products of combustion: water, nitric oxides, carbon monoxides, nitrogen.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

The product is toxic through respiratory tract, in skin contact and after swallowing. It is toxic when inhaled. It is toxic in skin contact. It is toxic when swallowed. The combined action of nitroglycerine and nitroglycol is the most severe of hazards pertaining to the product.
The toxic effects of such a mix may occur in conditions of the product absorbed both through the skin and/or through the respiratory tract. In the case of a permanent exposure, the circulatory system is most endangered, with severe effects including lowering arterial blood pressure and cardiac rate, and headaches. Toxic effects of nitroglycerin and/or nitroglycol action also include acute pain in the chest similar to symptoms of coronary disease, even after the exposure. In case of contaminated mouth mucosa local redness may occur.

Nitroglyceryn and nitroglycol react in the body with antihypertensives and vasodilators, TCAs, neuroleptics, alcohol as well as sildenafil, tadafil and vardenafil. It is forbidden for people taking sildenafil, tadafil and vardenafil to work with the nitroglycerin contents in the air.

Likely routes of exposure: through skin, mucosa, respiratory system, digestive tract.

Acute oral poisoning

The product may cause skin redness, especially on the face, with the sensation of heat, headache, hallucinations, nausea, burning throat, ear buzzing and choking sensation. Chest and abdominal pains are also possible; a violent drop of blood pressure with risk of collapse, convulsions, breathing disorders and death.

Chronic poisoning symptoms

Repeated or chronic exposure to vapours is habit forming. Possibility of elevated content of methemoglobin in blood, changes in nervous system and blood vessels, trembling, neuralgias, digestive problems, chronic inflammations and allergies. Multiple administrations may lead to the symptoms listed in acute toxicity. Workers exposed to nitroglycerin and nitroglycol develop higher exposure tolerance. Tolerance is of short duration only and reexposure after a short break may lead to poisoning with amounts that were safe previously.

SECTION 12: Ecological Information

12.1 Toxicity

Toxic concentration for aquatic animals and plants for the mixture - not determined.

12.2 Persistence and degradability

Not defined.

12.3 Bioaccumulative potential

Not found. The product undergoes full biodegradation.

12.4 Mobility in soil

There is not the contamination risk of soil as the product is not likely to penetrate into the environment.

12.5 Result of the PBT and vPvB assessment

None of the components of the explosives presented in the MSDS is considered to be PBT or vPvB.

12.6 Other adverse effects

The risk of air, soil and surface water contamination is non-existent, as it is highly unlikely that the mixture is released to environment. If it penetrates into waters, ammonium nitrate is extracted and nitroglycerin and nitroglycol are released on the bottom. The ammonium nitrate contained in the product is easily soluble in water, and nitroglycerin and nitroglycol undergo biodegradation.
The allowable pollution level of the atmospheric air: not defined.
The allowable pollution level of the inland surface waters: not defined.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

The waste of the explosives must be eliminated through detonating them.
The waste of packaging materials contaminated with explosives must be eliminated using thermal transformation process in the open air.
The elimination of wastes must be done only by an authorised contractor.
Suppliers will accept any waste of the explosives and packaging materials contaminated by the explosives which is generated by products it has previously marketed among domestic customers.

SECTION 14: Transport Information

The transport packaging and marking of nitroester explosives is subject to RID/AIR/IMDG rules. The marking on the mixture packaging must specify at least a proper shipping name in English and, if the mixture is to be transported outside British borders, in Polish, German or French, and the identification number of the material preceded by the UN letters. Any package containing the product must have a warning label stuck on it and a trade name of the explosive.

14.1 UN number

UN 0081

14.2 Proper shipping name

English	EXPLOSIVE, BLASTING, TYPE A
Polish	MATERIAŁ WYBUCHOWY, KRUSZĄCY, TYP A
German	SPRENGSTOFF, TYP A
French	EXPLOSIF DE MINE DU TYPE A

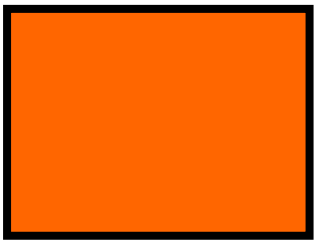
14.3 Hazard class(es) in transport

Class: 1
Classification code: 1.1 D

Marking of vehicles & packages

Certification marking:

Orange board:



Marking of vehicles

Warning sticker:

Marking vehicles and packages

14.4 Packaging group

Not applicable.

14.5 Environmental hazards

See Sections 6.2 and 6.3.

14.6 Special precautions for users

It is absolutely prohibited to transport the nitroester-containing explosives using the same vehicle with other dangerous materials, except for dangerous materials classified to Class 1, Compatibility Groups: C, D, E, G and S. The means of transportation and containers must be marked in accordance with RID/ADR/IMDG rules.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The purchasing and storing of explosives is subject to a special authorisation to be obtained in accordance with the act on explosives for civil use or the act on economic activity in the sphere of manufacturing of and trade in explosives, arms, ammunition and technology of military or police use.

Legal regulations:

- Act of 11 January 2001 on substances and chemical preparations (consolidated text Journal of Laws Dz.U.09.152.1222).
- Act of 27 April 2001 on waste (consolidated text Journal of Laws Dz.U. 07.39.251, as amended, Dz. U. 10.28.145).
- Regulation of the Minister of Environment of 27 September 2001 on the catalogue of waste materials (Journal of Laws Dz.U.01.112.1206).
- Act of 28 October 2002 on road transportation of dangerous goods (Journal of Laws Dz. U.02.199.1671 as amended).
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- Act of 21 June 2002 on explosives for civil use (Journal of Laws Dz.U.02.117.1007 as amended).
- Act of 22 June 2001 on economic activity in the sphere of manufacturing of and trade in explosives, arms, ammunition and technology of military or police use (Journal of Laws Dz.U.01.67.679 as amended).
- Regulation (EC) No. 1907/2006 of the European Parliament and of the Council, of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, 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.
- Regulation of the Minister of Economy of 17 June 2002 on occupational health and safety, operations and specialist fire protection in open cast mining companies extracting basic minerals (Journal of Laws Dz. U. No. 02.96.858 as amended).
- Regulation of the Minister of Economy of 28 June 2002 on occupational health and safety, operations and specialist fire protection in open cast mining companies extracting minerals through drill holes (Journal of Laws Dz. U. No. 02.109.961 as amended).
- Regulation of the Minister of Labour and Social Policy of 29 November 2002 on maximum allowed concentrations and intensities of agents harmful to human health in the work environment (Journal of Laws Dz.U.02.217.1833 as amended).
- Regulation of the Minister of the Economy, Labour, and Social Policy of 9 July 2003 on occupational health and safety during manufacturing, handling and trade in explosives, including pyrotechnic products (Journal of Laws Dz.U.03.163.1577).
- Regulation of the Minister of Health of 2 September 2003 on criteria for the classification of chemical substances and chemical preparations (Journal of Laws Dz.U.03.171.1666 as amended).
- Regulation of the Minister of Health of 5 March 2009 on labelling of hazardous substances and hazardous preparations and some chemical preparations (Journal of Laws Dz.U.09.53.439).
- Regulation of the Minister of Health of 8 February 2010 on the list of hazardous substances and their classification and labelling (Journal of Laws Dz.U.10.27.140).
- Act of 11 May 2001 on packages and package waste (Journal of Laws Dz.U.01.63.638 as amended).
- Regulation of the Minister of Infrastructure of 19 December 2002 on the scope and method of applying regulations on road transport of hazardous goods to the transport of hazardous waste (Journal of Laws Dz.U.02.236.1986).

15.2 Chemical safety assessment

The chemical safety assessment has not been done for the product.

SECTION 16: Other Information

This Material Safety Data Sheet has been prepared on the basis of following references:

1. Chemical safety report for nitroglycerin submitted to EChA.
2. Chemical safety report for nitroglycol submitted to EChA.
3. Material Safety Data Sheet concerning nitroglycerin, prepared by the Central Institute for Labour Protection (CIOP) in Warsaw, ul. Czerniakowska 16, as approved by the CIOP Policy Board and revised on 16 December 2004.
4. Material Safety Data Sheet concerning nitroglycol, prepared by the Central Institute for Labour Protection (CIOP) in Warsaw, ul. Czerniakowska 16, as approved by the CIOP Policy Board and revised on 31 May 2007.
5. Material Safety Data Sheet concerning ammonium nitrate prepared by Zakłady Azotowe "Puławy" S.A.
6. Andrzej Starek (CM UJ) "Nitroglycerine - Documentation of postulated permissible values of workplace exposure levels" in "Podstawy i Metody Oceny Środowiska Pracy" Brochure 12, 1995
7. Andrzej Starek (CM UJ) "Nitroglycol - Documentation of postulated permissible values of workplace exposure levels" in "Podstawy i Metody Oceny Środowiska Pracy" Brochure 12, 1995
8. Markus Zieglmeier, Tanja Hein. "Interakcje leków". MedPharm Polska. Wrocław. 2009.
9. Robert Dreisbach, and William Robertson. "Vademecum zatruć". PZWL. Warsaw. 1995
10. "Zasady postępowania Ratowniczego. Przewodnik". PIOŚ. Warsaw. 1997.

Explanations of phrases defining risks, used in classification of materials *acc. to Directive 67/548/EEC* (R-phrases):

R 2	–	Risk of explosion by shock, friction, fire and/or other sources of energy.
R 3	–	Extreme risk of explosion by shock, friction, fire and/or other sources of energy.
R 8	–	Contact with combustible material may cause fire.
R 26/27/28	–	The product is toxic in case of exposure by respiratory tract, skin contact or if swallowed.
R 33	–	Danger of cumulative effects.
R 36		
R 51	–	Toxic to aquatic organisms.
R 53	–	May cause long-term adverse effects in the aquatic environment.

Explanation of hazard phrases used in the classification of materials *According to Regulation EU Commission 1272/2008* (H-phrases):

H200	–	Unstable explosives.
H201	–	Explosive; mass explosion hazard.
H272	–	May intensify fire; oxidiser.
H300	–	Fatal if swallowed.
H310	–	Fatal in contact with skin.
H319	–	It causes eye irritation.
H330	–	Fatal if inhaled.
H373	–	May cause damage to circulatory system through prolonged or repeated exposure through respiratory tract and skin as well as digestive tract.
H411	–	Harmful to aquatic life with long lasting effects.

While assigning the mixture to a relevant category, eye-irritant effects of ammonium nitrate have not been taken into account since the mixture consistency compared to the raw material consistency precludes the eye-irritant effects of the ammonium nitrate dust.

All information and data included to this Material Safety Data Sheet have been prepared on the basis of the above documents and references, to the best of our knowledge and experience relating to the product. These data shall be read only as a description of safety issues relating to the product and must not be interpreted as parameters guaranteed. The user is solely responsible for creating necessary conditions for safe storage and use of explosives. In preparing this Material Safety Data Sheet, the intended use only has been taken into account. The user will bear the full responsibility for any damage caused by any non-compliant handling or unintended use of the product.

Data Sheet Updated	**July 2014 (RTP)**