 <p>NITROERG Grupa Kapitałowa KGHM Polska Miedz S.A.</p>	<p align="center">Safety Data Sheet NITROESTER EXPLOSIVES <i>Safety Data Sheet</i> <i>compliant with the requirements of Regulation (EC) No. 1907/2006 (REACH), as amended</i></p>	Issue No.	3
		Issued on	01.06.2015
		Updated on	-
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SECTION 1. IDENTIFICATION OF THE ~~SUBSTANCE~~/MIXTURE AND IDENTIFICATION OF THE COMPANY

1.1. Product identifier

NITROESTER EXPLOSIVES (DYNAMITES)

Under the following trading names : **AUSTROGEL P, ERGODYN 30E, ERGODYN 35E, ERGODYN 37SE, EURODYN 2000N, MAGNASPLIT, MINEX ECO, POLADYN 31ECO**

In cartridges in paper, plastic foil and polyethylene tubes.

1.2. Relevant identified uses of the ~~substance or~~ mixture and not recommended uses.

Dynamites are used in underground mining and open pit mines as rock blasting explosives. All nitroester explosives may be used to perform various works in engineering and demolition projects.

Not recommended uses: it is prohibited to use dynamites in potentially hazardous atmosphere of coal dust and air mixtures and methane and air mixtures.

1.3. Details of the supplier of the Safety Data Sheet

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

Production Plant Location:

NITROERG S.A.
42-693 Krupski Młyn
ul. Zawadzkiego 1

Address of the persons responsible for the Safety Data Sheet: sds@nitroerg.pl

1.4. Emergency Phone

+ 48 32-46-62-000 (available 6 am – 3 pm, Monday – Friday)
112 (24h service)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the ~~substance or~~ the mixture

Expl 1.1; H201	Explosive, subclass 1.1
Acute Tox. 1; H310	Acute toxicity in skin contact, class 1
Acute Tox. 2; H300	Acute toxicity if ingested, category 2
Acute Tox. 2; H330	Acute toxicity if inhaled, category 2

STOT RE 2; H373	Specific target organ toxicity, category 2
Eye Irrit. 2; H319	Eye irritating.
Aquatic Chronic 3; H412	Harmful to aquatic life, category 3

Full versions of the H-phrases are included in section 2.2 of this Data Sheet.

2.2. Labelling



DANGER

H201	Explosive; Mass explosion hazard.
H310	Fatal in contact with skin.
H300	Fatal if swallowed.
H330	Fatal if inhaled.
H319	May cause serious eye irritation.
H373	May cause damage to circulatory system through prolonged or repeated exposure through respiratory track, skin or digestive system.
H412	Harmful to aquatic life, with long – lasting effects.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking
P270	Do not eat, drink or smoke while handling the product.
P302+P352	IF ON SKIN: wash thoroughly with water and soap
P370	In case of fire: do not inhale smoke.
P372	Explosion risk in case of fire.
P373	DO NOT fight fire when fire reaches the explosives.
P312	Call A POISON CENTRE or a physician if you feel unwell.
P501	Dispose of contents/container (to) in a safe way.
P101	If medical advice is needed, have product container or label at hand.

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 confined space or combustion of large quantities results in explosion. Fire may occur also as a secondary effect of explosion.

SECTION 3. COMPOSITION/INFORMATION ON COMPONENTS

3.1. Substances

Not applicable.

3.2. Mixtures

3.2.1. Hazardous components of the mixture

a)	Chemical name	Nitroglycerin (propane 1,2,3-triyl trinitrate) 18 % ≤ c ≤ 22 %
	IUPAC name	Propene 1,2,3-triyl trinitrate
	Index number	603-034-00-X
	CAS number	55-63-0
	EINECS number	200-240-8
	ECHA registration number	01-2119488893-18-0000
	UN number	Not determined for pure state substances
	<u>Classification of the substance</u>	

➤ According to the Regulation of the European Parliament and Council (EC) No 1272/2008 (CLP)

Unst..Expl.; H200	Unstable explosive
Acute Tox. 1; H310	Acute toxicity in skin contact, category 1
Acute Tox. 2; H300 H330	Acute toxicity if swallowed or inhaled, category 2
STOT RE 2; H373	Toxic to organs through prolonged or repeated exposure, category 2
Aquatic Chronic 2; H411	Harmful to aquatic life, category 2

b)	Chemical name	Nitroglycol (1,2-Ethanediol dinitrate) 12% ≤ c ≤ 14 %
	IUPAC name	Ethane-1,2-diyl dinitrate
	Index number	603-032-00-9
	CAS number	628-96-6
	EINECS number	211-063-0
	ECHA registration number	01-2119492860-31-0001
	UN number	Not determined for pure state substances
	<u>Classification of the substance</u>	

➤ According to the Regulation of the European Parliament and Council (EC) No 1272/2008 (CLP)

Unst. Expl.; H200	Unstable explosive
Acute Tox. 1; H310	Acute toxicity in skin contact, category 1
Acute Tox. 2; H300 H330	Acute toxicity if swallowed or inhaled, category 2

STOT RE 2; H373

Toxic to organs through prolonged or repeated exposure, category 2

- c) Chemical name **Nitrocellulose nitrogen content up to 12,6%**
0,8 % ≤ c ≤ 1,4 %
IUPAC name Cellulose nitrate ≤ 12,6% Nitrogen
Index number 603-037-00-6
CAS number 9004-70-0
Classification of the substance:

➤ According to the Regulation of the European Parliament and Council No 1272/2008 (CLP)

Flam.Sol. 1; H228

Flammable solid, category 1

- d) Chemical name **Ammonium nitrate** 54,5 % ≤ c ≤ 64,5 %
IUPAC name Ammonium nitrate
CAS number 6484-52-2
EINECS number 229-347-8
ECHA registration number 01-2119490981-27-0025
Classification of the substance

➤ According to the Regulation of the European Parliament and Council No 1272/2008 (CLP)

Ox. Sol. 3; H272

Oxidising solid, category 3

Eye Irrit. 2; H319

Irritating for eyes, category 2

e)

- Nazwa chemiczna **Magnesium (V) nitrate** c < 2%
Nazwa wg IUPAC Magnesium nitrate
Nr CAS 10377-60-3
Nr EINECS 233-826-7
Nr rejestracji ECHA 05-2117368611-43-0000
Klasyfikacja substancji:

➤ According to the Regulation of the European Parliament and Council No 1272/2008 (CLP)

Ox. Sol. 3; H272

Oxidizing solid, cat. 3

Eye Irrit. 2; H319

Eye Irritating.

Nazwa chemiczna **Ethylene glycol** c < 1,2%
Nazwa wg IUPAC 1,2 ethanediol
Nr CAS 107-21-1
Nr EINECS 203-473-3
Nr rejestracji ECHA 01-2119456816-28-0004

➤ According to the Regulation of the European Parliament and Council No 1272/2008 (CLP)

Acute Tox.4; H302 Harmful if swallowed, Acute Toxicity, cat. 4
STOT RE 2; H373 May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Full versions of H phrases used in this subsection are included in section 16 of this Data Sheet, except for the phrases explained in subsection 2.2.

3.2.2. Components of the mixture not classified as hazardous

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

SECTION 4. FIRST AID MEASURES

4.1. Description of the first aid measures

- a) **Inhalation poisoning:** Call a physician. Remove the poisoned person from the exposure area. Keep at rest in any position. Gas combustion products or explosive decomposition products are also hazardous. In case of blast gases poisoning remove the victim from the exposure area and call a physician.
- b) **Skin contamination:** In case of skin contact with the mixture rinse the skin with running water and soap. In case of skin changes or deterioration of disposition, seek medical help.
- c) **Eye contamination:** Call a physician. Rinse well, preferably with running water for several minutes (avoid strong water jets in order to prevent mechanical damage of the eye).
- d) **Ingestion poisoning:** Call a physician. Upon ingestion immediately make the poisoned person drink large amount of water and, if possible, treat with medical charcoal and try to induce vomiting.

4.2. Most important acute and delayed symptoms and effects of exposure

- a) **Acute symptoms and effects of exposure:**
 - Inhalation poisoning – dilation of blood vessels resulting in lowered blood pressure, headache and disarray; risk of loss of consciousness;
 - Skin contamination – skin changes (irritation), skin absorption produces similar effects as in inhalation poisoning;
 - Eye contamination – contact with eyes causes lacrimation and reddening;
 - Ingestion poisoning – swallowing causes irritation of mouth, oesophagus and digestive tract and similar symptoms as in inhalation poisoning.

b) Delayed symptoms and effects of exposure:

- Inhalation poisoning – repeated or prolonged exposure to vapours of nitroglycerine and nitroglycol mixture may cause inurement. Slightly increased level of methemoglobin in blood may persist and so may changes in the nervous system and blood vessels, tremors and neurological pains, digestion disorders.
- Skin contamination – chronic allergic reactions and skin inflammations.

4.3. Instructions regarding all immediate medical aid and special requirements of handling the exposed person

If inhaled: if breathing disorders occur intubate, apply CPR with oxygen. If arterial blood pressure drops considerably, administer liquids intravenously (5% glucose, 0.9% NaCl or Dextran 4000 or alternatively dopamine in intravenous drop). Transport to hospital in a resuscitation ambulance without discontinuing the treatment.

Skin contamination: Procedure as in inhalation poisoning.

Ingestion: Procedure as in inhalation poisoning.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

- a) Suitable extinguishing media:** If the explosive is not directly involved in the fire, use suitable extinguishing media and methods, prevent the fire from spreading onto the product. If the mixture is not involved in the fire use water from a safe distance, carbon dioxide, extinguishing powders, alcohol – resistant foams.

- b) Unsuitable extinguishing media:** Not applicable.

5.2. Special hazards related to the ~~substance or~~ mixture

Do not fight the fire if it has reached the load area.


Explosion hazard and hazard of falling fragments if fire reaches the load area.

During combustion nitrogen oxides are formed.

5.3. Information for the fire services

If the explosive products are involved in the fire, DO NOT try to fight the fire. Retreat from the exposure area and allow the product to burn down. In case of fire immediately evacuate all individuals within the exposure area. During evacuation use natural covers and shields, avoid direct eye contact with the exposure area and forbid all individuals to stay close to windows. Stop all traffic and confine the exposure area within 500 m radius. Remove all unnecessary personnel. Do not fight the fire within the load. Use air – isolating breathing equipment and action firefighting clothing as primary protection.

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

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In case of fire of the transport wagon, detach the wagon from the train (if possible) and move at a safe distance.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non – members of the aid personnel

In this case personal precaution measure are not required. It is recommended that all persons not involved in handling the emergency situation should retreat from the exposure zone and stay in an indicated place.

6.1.2. For aid attendants

Apply personal precaution measures specified in section 8.

6.2. Environmental precautions

Notify the surrounding area of the hazard. Secure the explosive products and spillage from outsiders.

6.2.1. Small release to the environment

Remove the ignition sources (extinguish open flames, announce smoking ban). Avoid inhaling vapours. In case of packaging damages carefully collect the spillage (not allowing any sparking) and place in a tight container (e.g. a PE bag). During collecting the spillate use protective gloves. Dispose of explosive waste in compliance with section 13.

6.2.2. Large release to the environment

In case of significant emergency notify the Fire Services and the Police. Do not allow the mixture to penetrate the sewage systems, surface or ground waters.

6.3. Methods and materials of confinement and contamination removal

Air, soil and surface waters contamination is insignificant due to the fact that there is no likelihood of the mixture penetrating the environment in significant amounts. In case of release to water ammonium nitrate is extracted and nitroglycerin and nitroglycol are released on the bottom. Both nitroglycerin and nitroglycol included in the mixture are biodegradable.

6.4. Reference to other sections

During handling the explosive material, depending on the scale of contamination, apply personal precaution measure specified in section 8 of this Data Sheet. Handle the waste in compliance with section 13.

SECTION 7. HANDLING AND STORAGE OF THE SUBSTANCES AND MIXTURES

7.1. Precautions for safe handling

7.1.1. While handling the mixture, avoid inhaling vapours, keep personal hygiene, work in ventilated rooms, do not use any spark – producing tools, avoid exposing the mixture to open flames, high temperatures or impact. Protect from influence of weather conditions (direct exposure to sunrays, precipitation, etc.)

7.1.2. Do not eat or drink while handling the mixture.

7.2. Conditions for safe storage, including any incompatibilities

Store in warehouses compliant with requirements for explosive materials. Storage temperature should be as follows:

For Austrogel P	from 0 to 30 °C
For Ergodyn 30E	from 5 to 30 °C
For Ergodyn 35E	from -10 to 30 °C
For Ergodyn 37SE	from 10 to 30 °C
For Eurodyn 2000N	from 0 to 30 °C
For Magnasplit	from 0 to 30 °C
For Minex Eco	from -10 to 30 °C
For Poladyn 31Eco	from 5 to 30 °C

Joint storage exclusively with class 1 materials, compatibility groups C, D, E, G i S according to ADR regulations. The amounts of the mixture stored in the warehouses are subject to strict regulations.

Details regarding the storage of explosive materials are subject to the internal regulations of specific country.

7.3. Special final uses

Information regarding the use of the mixture was listed in subsection 1.2.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION MEASURES

8.1. Control parameters

For the explosives included in this Material Safety Data Sheet the values of maximal allowable concentration in the work place and biological date have not been determined, therefore those values are indicated separately for the components of the explosives.

a) For nitroglycerin

MAC (Max.allowable concentration) – according polish law	0,095 mg/m ³
MAL (Max. exposure limit) – according polish law	0,19 mg/m ³
TLV (Threshold limit value) – according polish law	not determined



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ACBM (Allowable concentration in biological matters) – according polish law not determined

For workers:

DNEL(short – term / skin exposure/ systemic effect) : 2,5 mg/kg/day

DNEL(long - term / skin exposure/ systemic effect) : 0,5 mg/kg/day

For general public:

DNEL(long - term / skin exposure/ systemic effect) : 0,5 mg/kg/day

PNEC fresh waters: 1,98 mg/l

b) For nitroglycol

MAC (Max.allowable concentration) – according polish law

0,3 mg/m³

MAL (Max. exposure limit) – according polish law

0,4 mg/m³

TLV (Threshold limit value) – according polish law

not determined

ACBM (Allowable concentration in biological matters) – according polish law

not determined

For workers:

DNEL(short – term / skin exposure/ systemic effect) : 0,06 mg/kg/day

DNEL(long - term / skin exposure/ systemic effect) : 0,085 mg/kg/day

For general public:

DNEL(short - term / skin exposure/ systemic effect) : 0,015 mg/kg/day

DNEL(long - term / skin exposure/ systemic effect) : 0,043 mg/m³

DNEL(long - term / oral/ systemic effect) : 0,015 mg/kg/day

PNEC fresh waters: 0,003 mg/l

PNEC sea waters: 0,0003 mg/l

PNEC occasional exposure: 0,019 mg/l

c) For ammonium nitrate

MAC (Max.allowable concentration) – according polish law

10 mg/m³

MAL (Max. exposure limit) – according polish law

not determine

TLV (Threshold limit value) – according polish law

not determined

ACBM (Allowable concentration in biological matters) – according polish law not determined

For workers:

DNEL(short –term / inhalation/ systemic effect) : 37,6 mg/m³

DNEL(long - term / skin exposure/ systemic effect) : 21, 3 mg/kg/day

For general public:

DNEL(short - term / skin exposure/ systemic effect) : 12,8 mg/kg/day

DNEL(long - term / inhalation/ systemic effect) : 12,8 mg/m³

DNEL(long - term / oral/ systemic effect) : 12,8 mg/kg/day

PNEC fresh waters: 0,45 mg/l

PNEC sea waters: 0,045 mg/l

PNEC occasional exposure: 4,5 mg/l

Total exposure – sum of multiplicities of occurring concentrations up to the values of MACs <1.

8.2. Exposure control

8.2.1. Applied technical control measures

PN-Z-04008.07:2002 Air purity protection. Sampling. General provisions. Procedures for sampling in the work environment and results interpretation.

PN-89/Z-04213/02 Air purity protection. Nitroglycerin content testing. Determination of nitroglycerin in work environment with gas chromatography.

PN-89/Z-04212/02 Air purity protection. Nitroglycol content testing. Determination of nitroglycol in work environment with gas chromatography

8.2.2. Individual control measures

- a) **Skin protection:** if contact with skin is probable, wear protective clothing, if contact with hands is probable, wear protective gloves.
- b) **Respiratory tract protection:** in emergency situation and when MAC limits are exceeded, use gas tight masks with organic vapour filters.

While handling explosives **loaded** into cartridges it is not necessary to use personal protection measures.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a)	Appearance	Red (light pink to dark red) homogenous, ductile mixture, solid in cartridges in paper, plastic foil or polyethylene tubes.
b)	Odour	characteristic for nitroesters
c)	Odour threshold	no data available
d)	pH	not applicable
e)	Melting/solidification point	not applicable
f)	Initial boiling point and boiling temperatures range	not applicable
g)	Flash point	no data available
h)	Evaporation rate	impossible to test due to safety reasons
i)	Flammability (of solid, of gas)	combustion may turn into explosion
j)	Lower/upper explosive limit	impossible to test due to safety reasons
k)	Vapour pressure	no data available
l)	Vapour density	no data available
m)	Relative density	1,3÷1,5 g/cm ³
n)	Solubility in water at 20°C	soluble substances are extracted

o)	Partition co-efficient: n-octanol/water	not applicable
p)	Auto – ignition temperature	no data available
q)	Decomposition temperature:	over 165°C
r)	Viscosity	not applicable
s)	Explosive properties:	
	➤ friction sensitivity	no reaction up to at least 80N
	➤ shock sensitivity	no reaction up to at least 2 J
t)	Oxidising properties	explosive mixture, determination of oxidising properties is not required

9.2. Other information

a) Sensitivity coefficients

	Mechanical sensitivity coefficient	Thermal sensitivity coefficient	SENSITIVITY COEFFICIENT
	R_m	R_t	R_w
Austrogel P	2,45	2,53	2,49
Ergodyn 30E	3,87	2,80	3,29
Ergodyn 35E	2,70	3,48	3,06
Ergodyn 37SE	3,87	2,57	3,15
Eurodyn 2000N	2,45	2,53	2,49
Magnasplit	2,45	2,53	2,49
Minex Eco	2,83	2,80	2,81
Poladyn 31Eco	2,45	2,53	2,49

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

The mixture is sensitive to mechanical, thermal and electric stimuli.

10.2. Chemical stability

In the temperature of the environment the mixture is stable.

10.3. Potential hazardous reactions

High temperatures, shock, friction, electric spark and other energy media may induce an explosive reaction.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Described in subsection 14.6.

10.6. Hazardous decomposition products

Explosion products: water, nitrogen oxides, carbon oxides, nitrogen.

Combustion products: water, nitrogen oxides, carbon oxides, nitrogen.

SECTION 11. TOXICITY INFORMATION

11.1. Toxicity effects information

11.1.1. Substances

Not applicable.

11.1.2. Mixtures

The mixture is toxic through respiratory tract, in contact with skin and upon swallowing. The most significant toxicity hazard is caused by the combined action of nitroglycerin and nitroglycol.

The toxic effects of those components occur if they are absorbed through skin and respiratory track. In case of permanent exposure, the most endangered system is the circulatory system, the critical effects being: decrease of arterial blood pressure and cardiac rate and headache. Toxic effects of nitroglycerin and nitroglycol action also include acute chest pains, similar to symptoms of coronary disorder, persisting even the discontinuation of exposure. Mucous membranes contamination may cause local reddening.

Nitroglycerin and nitroglycol react in the system with antihypertensives and vasodilators, TCAs, neuroleptics, alcohol as well as with sildenafil, tadalafil and vardenafil. It is forbidden for members of personnel taking sildenafil, tadalafil or vardenafil to work in conditions of nitroglycerin contents in the air.

Absorption: through skin, mucous membranes, respiratory system, digestive tract.

Acute poisoning symptoms

The mixture causes skin reddening, especially of the face, with heat waves, headache, hallucinations, nausea, burning throat, ear buzzing, choking on air sensation; may cause chest and abdominal pains; violent decrease of blood pressure potentially leading to collapse, convulsions, breathing disorders and death.

Chronic poisoning symptoms

Repeated or prolonged exposure to vapours may cause inurement. Possibility of increased content of methemoglobin in blood and changes in the nervous system and blood vessels, tremors, neuralgic pains, digestive disorders, chronic inflammations and allergies of skin. Repeated administration may lead to the symptoms characteristic of the acute poisoning. Workers exposed to nitroglycerin and nitroglycol develop higher exposure tolerance. Due to the fact that such tolerance is not long – lasting, if the exposure is discontinued even for a short time, reexposure may lead to poisoning with amounts which used to be tolerated earlier.

Fatal concentrations and doses

For explosive materials included in this Data Sheet, the values of such concentrations have not been determined, due to that fact the values are listed for particular components.

a) For nitroglycerin

Rat, oral DL₅₀ 105 mg/kg
Rat, inhalation CL₅₀ no data available
Rabbit, skin DL₅₀ 280 mg/kg

b) For nitroglycol

Rat, oral DL₅₀ 460÷616 mg/kg
Rat, inhalation CL₅₀ no data available
Rabbit, skin DL₅₀ 400 mg/kg

b) For ammonium nitrate

Rat, oral DL₅₀ 2000 mg/kg
Rat, inhalation CL₅₀ no data available
Rat, skin DL₅₀ 2000 mg/kg

11.1.3 Acute Toxicity Estimates (ATEmix) for each mixture:

MIXTURE	ATE mix		
	Oral [mg/kg]	Skin [mg/kg]	Inhalation [mg/l]
Austrogel P Ergodyn 30E Eurodyn 2000N Magnasplit Minex Eco Poladyn 31Eco	16,6	16,6	1,66
Ergodyn 35E	14,2	14,2	1,42
Ergodyn 37SE	13,5	13,5	1,35

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Toxic concentration of the mixture for aquatic animals and plants – not determined. For the components of the mixture – not determined or no data available.

12.2. Persistence and degradability

Not determined for the mixture.

12.3. Bioaccumulative potential

Not found. The mixture is fully biodegradable.

12.4. Mobility in soil

There is no soil contamination risk as the product is not likely to penetrate the environment.

12.5. Results of PBT and vPvB assessment

None of the components of the explosives included in this Data Sheet present any PBT or vPvB properties.

12.6. Other adverse effects

Risk of air, soil or surface waters contamination does not exist, as the mixture is not likely to penetrate the environment. If it penetrates the waters, ammonium nitrate is extracted and nitroglycerin and nitroglycol are isolated on the bottom. Ammonium nitrate is easily absorbed by plants and nitroglycerin and nitroglycol are biodegradable.

Allowable contamination level for atmospheric air – not determined.

Allowable contamination level for inland surface waters – not determined.

SECTION 13. WASTE HANDLING

13.1. Waste neutralization methods

Do not allow penetration into underground waters, surface waters or soil.
Do not store on landfill sites.

Explosives wastes must be neutralized through detonation or thermal transformation in open air.
Explosives packaging contaminated by explosives must be neutralized through thermal transformation in the open air.

Waste neutralization may only be conducted by an authorized entity.

The Manufacturer collects explosives waste for neutralization and packaging contaminated by explosives from the customers of the national market of the explosives purchased at NITROERG S.A.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number:

UN 0081



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14.2. Proper UN shipping name

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

14.3. Transport hazard class (-es):

Class: 1
Classification code: 1.1 D

14.4. Packing group:

Not applicable.

14.5. Environmental hazards:

See subsections 6.2 and 6.3.

14.6. Special precautions for users:

Packaging method and package labelling as well as the labelling of the means of transport explosive materials of class 1.1D, subject to regulations appropriate for specific mean of transport (ADR/ RID, IMDG, IATA/ ICAO).

During shipment and short storage periods, the temperature should not exceed the limits given in technical data sheet corresponding to specific products.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code

Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1. Legal regulations related to safety, health and environmental protection specific for the ~~substance or mixture~~

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, as amended.

Commission Regulation (UE) No 435/2010 of 20 May 2012 amending the Regulation (EC) 1907/2006 of the European Parliament and the Council on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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.

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) concluded in Geneva on 30 September 1957.

Purchasing and storage of the explosives require an applicable permit compliant with the Act on Explosives for Civil Uses or the Act on Business of Manufacturing and Trading of Explosives, Weapons, Ammunition and Goods and Technology for Military or Police Uses.

15.2. Chemical safety assessment

Chemical safety assessment for the mixture is not required.

SECTION 16. INNE INFORMACJE

a) Changes with regard to the previous issue of the Safety Data Sheet

General update carried out in order to adjust the SDS to the requirements of REACH Regulation

b) Data sources used for this SDS

This Safety Data Sheet was prepared on the basis of the following source data:

Chemical Safety Report for nitroglycerin submitted to EChA.

Chemical Safety Report for nitroglycol submitted to EChA..

Safety Data Sheet for nitroglycol prepared by Central Institute of Work Safety in Warsaw, approved by CIOP and updated on 16.12.2004.

Safety Data Sheet for nitrocellulose (nitrogen content up to 12.6%) prepared by Synthesia a.s. Pardubice (the Czech Republic) and updated on 28.02.2011.

Safety Data Sheet for PULAN (34N ammonium nitrate) prepared by Zakłady Azotowe „Puławy” S.A. and updated on 20.01.2011.

Andrzej Starek (CM UJ) “Nitroglycerin - Documentation of postulated permissible values of workplace exposure levels” in “Podstawy i Metody Oceny Środowiska Pracy” Brochure 12, 1995

Andrzej Starek (CM UJ) “Nitroglycol - Documentation of postulated permissible values of workplace exposure levels” in “Podstawy i Metody Oceny Środowiska Pracy” Brochure 12, 1995

Markus Zieglmeier, Tanja Hein. “Interakcje leków”. MedPharm Polska. Wrocław. 2009.

Robert Dreisbach, William Robertson „Vademecum zatruc” PZWL Warszawa 1995

„Zasady postępowania Ratowniczego. Przewodnik” PIOŚ Warszawa 1997

c) Explanation of H - phrases

- H228** Flammable solid.
- H272** May intensify fire. Oxidizer.
- H319** Irritating to eyes.
- H411** Toxic to aquatic life with long – lasting effects.

d) Explanation of acronyms used in this MSDS

- DNEL Derived no-effect level
- PNEC Predicted no-effect concentration

e) Classification of the mixtures according to (EC) 1272/2008 was based on:

Expert judgement.

All information and data included in this Safety Data Sheet were prepared on the basis of the abovementioned documents, reference documentation and our own knowledge of the product and practice. Information and data included should be interpreted as safety issues description and must not be interpreted as parameters guaranteed by the manufacturer. The User is solely responsible for ensuring safe storage and use conditions for the product. This Safety Data Sheet only refers to intended and recommended uses of the product. The User is solely liable for the result of any improper handling and/or use of the product.