SAFETY DATA SHEET
ACCORDING TO Regulation (EC) No. 1907/2006

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: **Powder underground explosive of amonium nitrate type**
Applicable to: Permonex V 19
Polonit E
Permon 10T

1.2 Relevant identified uses of the substance or mixture and uses advised against

Explosive for blasting operations.

1.3 Details of the supplier of the safety data sheet

Explosia a.s. tel.: +420 466 825 200
530 02 Pardubice - Semtin fax: +420 466 822 966
Czech Republic e-mail: sds@explosia.cz

1.4 Emergency telephone number

Producer:
tel.: +420 466 824 402
fax: +420 466 824 448

National advisory body:
Toxicological Information Centre (TIS): Hospital for Occupational Diseases, Na Bojišti 1171/1, 128 21 Prague 2, tel. 224 919 293, 224 915 402 or 224 914 575

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008

Expl. 1.1; H201
Acute Tox. 4; H302+H312+H332
Eye Irrit. 2; H319
STOT RE 2; H373
Aquatic Chronic 3; H412

2.1.2 Additional information

For full text of classification data see section 16.

2.2 Label elements

Hazard pictograms:

Signal word:
Danger.

Components of mixture for introducing on label:
Ammonium nitrate (EC No. 229-347-8); 2,4,6-Trinitrotoluene (EC No. 204-289-6)

Hazard statements:
H201 Explosive; mass explosion hazard.

Precautionary statements:
P501 Dispose of contents/container to national regulations for disposal of explosives.

Additional information on label:
None.

Note:
Directive 1272/2008 stipulates in Annex 1, Art. 1.3.5 that explosives placed on the market with a view to obtaining an explosive or pyrotechnic effect shall be labelled and packaged in accordance with the requirements for explosives only.

2.3 Other hazards

The product does not meet the criteria for PBT, vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Description of the mixture:

Mixture of ammonium nitrate, trinitrotoluene and other components not classified as dangerous.

Hazardous ingredients:

Identification name	CAS No ES No Index No Registration No	Content %	Classification according to (ES) 1272/2008 (CLP)
Ammonium nitrate	6484-52-2 229-347-8 - 01-2119490981-27-XXXX	77,0 až 89,0	Ox. Sol. 3; H272 Eye Irrit. 2; H319
2,4,6-Trinitrotoluene	118-96-7 204-289-6 609-008-00-4 01-2119860061-49-XXXX	10,0 až 16,9	Expl. 1.1; H201 Acute Tox. 3; H301+H311+H331 STOT RE 2; H373 Aquatic Chronic 2; H411

For full text of classification data see section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes:
In all cases keep the victim at physical and psychic rest and keep warm. Never give anything to an unconscious person. In heavy cases, always after contact with eyes, seek medical advice.

Following inhalation:
Break off the exposition. Move the victim to fresh air (not on the sun). If not breathing, give artificial respiration.

Following skin contact:
Remove contaminated clothing. Wash affected area with water and soap and use skin protective cream.

Following eye contact:
Rinse with water for at least 15 minutes. Move to the physician, while continue rinsing.

Following ingestion:
Rinse mouth out with clean water, give 0,5 l water to drink, do not induce vomiting, and seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Trinitrotoluen causes headaches, abdominal discomfort, dizziness, nausea, cyanosis. Ammonium nitrate has irritating effects on the skin and the mucous membranes.

4.3 Indication of any immediate medical attention and special treatment needed

No data.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: water spray. Adapt extinguishing media to the kind of fire.
Unsuitable extinguishing media: powders.

5.2 Special hazards arising from the substance or mixture

Low flammable. Strong source of heat may cause ignition. Extreme danger of explosion. Try to keep fire from reaching explosives. If fire reaches the product, do not fight fire. Warn surroundings of danger of explosion and evacuate immediately to a safe distance.
In case of burning, toxic and irritant gases are formed.

5.3 Advice for fire-fighters

Self-contained breathing apparatus and protective clothing conforming to EN 469.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid spraying or blowing-up by wind. Prevent access to unauthorised personnel to the place of leakage. Wear personal protective equipment. Avoid contact of spilled material with open fire, electric sparks and aggressive chemical compounds.

6.2 Environmental precautions

Avoid discharge to surface- and groundwater. If it is not possible, inform police and fire-fighters.

6.3 Methods and material for containment and cleaning up

Moisten spilled material with water, sweep up carefully and place in impermeable packages. Flush spill area with plenty of water. Dispose by explosion or incineration only in the place approved for disposal of explosives in accordance with national regulations relating to explosives.

6.4 Reference to other sections

More detailed disposal instructions see section 13, personal protective equipment see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in accordance with regulations relating to explosives. Keep away from open flame, heat, do not eat, drink or smoke. Maximum care should be taken during handling (lifting, transferring, opening of containers) and transportation. Keep away from combustible material. Take precautionary measures against static discharges. Observe personal hygiene measures. Wear suitable protective clothing and gloves. Wash with water and soup thoroughly after handling. Ensure drink water for the first-aid.

7.2 Conditions for safe storage, including any incompatibilities

Store according to national regulations relating to explosives.

Product	Storage conditions
Permonex V19	0 to +25 °C at relative humidity up to 80 %
Polonit E	-20 až +25 °C at relative humidity up to 80 %
Permon 10T	-20 až +25 °C at relative humidity up to 80 %

7.3 Specific end use(s)

Blasting operations. Observe safety regulations for processing of explosives.
To be used within 6 months after manufacturing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Exposition limits according to Czech government statute No. 361/2007 Sb. in actual version

Substance / State	Long term mg/m^3	Short term mg/m^3
Trinitrotoluene/ Czech republic	PEL: 0.3	NPK-P: 0.5

8.1.2 Monitoring procedures

To ensure observance of Czech government statute 361/2007 Sb. and to observe obligations included.

8.1.3 Biological limit values

Not determined either in the Czech Republic or in the EU.

8.1.4 DNEL and PNEC values

Ammonium nitrate **CAS 6484-52-2**

DNEL

Users	Route of study	Effects	Time of exposure	Value
Workers	Inhalation	Systemic effects	Long-term	37.6 mg/m^3
Workers	Dermal	Systemic effects	Long-term	21.3 mg/kg/den
General population	Inhalation	Systemic effects	Long-term	11.1 mg/m^3
General population	Dermal	Systemic effects	Long-term	12.8 mg/kg/den
General population	Oral	Systemic effects	Long-term	12.8 mg/kg/den

PNEC

Freshwater	Marine water	Intermittent releases	STP	Sediment (freshwater)	Sediment (marine water)	Soil	Secondary poisoning
0.45 mg/l	0.045 mg/l	4.5 mg/l	18 mg/l	not available	not available	not available	No potential

2,4,6-trinitrotoluen **CAS 118-96-7**

DNEL

Users	Route of study	Effects	Time of exposure	Value
Workers	Inhalation	Systemic effects	Long-term	0,035 mg/m^3
Workers	Dermal	Systemic effects	Long-term	0,01 mg/kg/den
General population	Inhalation	Systemic effects	Long-term	0,0086 mg/m^3
General population	Dermal	Systemic effects	Long-term	0,005 mg/kg/den
General population	Oral	Systemic effects	Long-term	0,005 mg/kg/den

PNEC

Freshwater	Marine water	Intermittent releases	STP	Sediment (freshwater)	Sediment (marine water)	Soil	Secondary poisoning
0.32 µg/l	0.0656 µg/l	1.9 µg/l	0.2 µg/l	0.0026 mg/kg	0.52 µg/kg	0.008 mg/kg	620 g/kg potravy

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Process enclosures, local exhaust, general ventilation.

8.2.2 Personal protective equipment

Protective clothing shall be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. All used personal protective equipment should conform the Regulation 2016/425/EU.
Eye and face protection - chemical goggles;
Skin protection - protective gloves depending on operation conforming EN 374, protective clothing, boots, cap;
Respiratory protection – if necessary anti-dust respirator.

8.2.3 Environmental exposure controls

Avoid release to the environment. If it is impossible, substance should be removed safely from the place of leakage. In case of leakage of substance to air or water sources, soil or sewer system, inform relevant authorities about leakage.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	loose material of red colour, Permon 10T of beige to off-yellow colour
Odour:	odourless
Odour threshold:	not available
pH :	not available
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	not applicable
Flash point:	not applicable
Evaporation rate:	not applicable
Flammability:	not applicable - explosive
Upper flammability or explosive limits:	not applicable
Lower flammability or explosive limits:	not applicable
Vapour pressure:	not applicable
Vapour density:	not applicable
Relative density:	not applicable
Solubility:	partly soluble in water
Partition coefficient: n-octanol/water:	not available
Auto-ignition temperature:	not applicable - explosive
Decomposition temperature:	not applicable
Viscosity:	not applicable
Explosive properties:	Expl. 1.1
Oxidising properties:	not applicable - explosive

9.2 Other information

Product	Flash point °C	Bulk density $g.cm^{-3}$	Impact sensitivity J
Permonex V19	> 210	0.90	min. 20
Polonit E	> 200	0.80	min. 10
Permon 10T	> 210	0.75	min. 30

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Explosive.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Not under normal conditions of use.

10.4 Conditions to avoid

High temperature, strong impact, friction.

10.5 Incompatible materials

Strong acids and alkalis.

10.6 Hazardous decomposition products

Oxides of nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: Harmful if swallowed, in contact with skin or if inhaled (category 4)

	Trinitrotoluene	LD_{50}: 795 $mg.kg^{-1}$, rat, oral
	Ammonium nitrate	LD_{50}: 2950 $mg.kg^{-1}$, rat, oral
Skin corrosion/irritation:	not containing these substances (or less than classification limit)	
Serious eye damage/irritation:	Causes serious eye irritation. Eye Irrit. 2; H319	
Respiratory or skin sensitisation:	not containing these substances (or less than classification limit)	
Germ cell mutagenicity:	not containing these substances (or less than classification limit)	
Carcinogenicity:	not containing these substances (or less than classification limit)	
Reproductive toxicity:	not containing these substances (or less than classification limit)	
STOT-single exposure:	not containing these substances (or less than classification limit)	
STOT-repeated exposure:	May cause damage to organs through prolonged or repeated exposure. STOT RE 2; H373	
Aspiration hazard :	not containing these substances (or less than classification limit)	

11.2 Likely routes of exposure

Through inhalation, skin exposure and ingestion.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Trinitrotoluene	LC_{50} for fish: 2.4 $mg.l^{-1}$
Ammonium nitrate	LC_{50} for fish: 6000 $mg.l^{-1}$

12.2 Persistence and degradability

Not established.

12.3 Bioaccumulative potential

Not established.

12.4. Mobility in soil

Not established.

12.5 Results of PBT and vPvB assessment

Assessment was not carried out.

12.6 Other adverse effects

Lack of data.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Substance/mixture: Moisten spilled material with water, sweep up carefully and place in impermeable packages. Flush spill area with plenty of water. Dispose by explosion or incineration only in the place approved for disposal of explosives in accordance with national regulations relating to explosives.

Packaging: Packaging without the rest of product incinerate only in the approved place in accordance with national regulations relating to explosives.

Waste codes / waste designations according to EWC:

16 04 03 N Other waste explosives

SECTION 14: TRANSPORT INFORMATION

14.1 UN number:	0082
14.2 UN proper shipping name:	EXPLOSIVE, BLASTING, TYPE B
14.3 Transport hazard class:	1
14.4 Packing group:	
14.5 Environmental hazards:	no

14.6 Special precautions for user:	no
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:	not applicable
14.8 Other applicable information:	
- for ADR/RID	
Classification code:	1.1D
Label:	1
- for IMDG	
EmS	F-B, S-Y
- for IATA	Air transport is forbidden

SECTION 15: REGULATORY INFORMATION

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

EU Regulations:
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), in the wording of later regulations
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP), in the wording of later regulations
European Waste Catalogue (EWC)
Directive 2012/18/EU of 4 July 2012 on the control of major-accident hazards involving dangerous substances – SEVESO III

15.2 Chemical safety assessment

Assessment was not carried out.

SECTION 16: OTHER INFORMATION

Changes to the previous version:
Not applicable.

Abbreviations:

CAS	Chemical Abstracts Service
EN	European standard
EWC	The European Waste Catalogue
PEL	Permissible Exposure Limit, long-term limit (8 hours)
NPK-P	Maximum allowable concentrations of chemicals in the workplace atmosphere, short-term limit
DNEL	Derived no-effect level
PNEC	Predicted no-effect concentration
CLP	Regulation No. 1272/2008/EC
REACH	Regulation No. 1907/2006/EC
PBT	Persistent, bioaccumulative and toxic
vPvB	very persistent and very bioaccumulative
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road
RID	Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG	The International Maritime Dangerous Goods
IATA	The International Air Transport Association

Full text of data used for classification:

Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment chronic, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Expl. 1.1	Explosive, Division 1.1

Ox. Sol. 3	Oxidising solid, Category 3
STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2

H201	Explosive; mass explosion hazard.
H272	May intensify fire; oxidiser.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled
H319	Causes serious eye irritation.
H373	May cause damage to organs.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

P501	Dispose of contents/container to national regulations for disposal of explosives.

Key literature references and sources for data
legislation, chemical databases and tables

Relevant data for classification
The mixture is classified on the basis of tests (explosiveness) and information on individual components.

Instructions for training
To use information from this SDS, to emphasize explosiveness, careful handling, professional and health qualification.