Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 06/21/2016 Revision: 06/21/2016

1 Identification

· **Product identifier**

· **Trade name: American Pioneer Powder, Pellets, Sticks, and Super Sticks**

· **Article number:** No other identifiers

· **Recommended use and restriction on use**
· **Recommended use:** Muzzleloading and Black Powder Cartridges
· **Restrictions on use:** See Sections 8 and 10 for further information.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
American Pioneer Powder, Inc.
1475 Blair Road
Whitewater, CO 81527
888-756-7693
appowder@aol.com

· **Emergency telephone number:**
ChemTel Inc.
+1 (800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

· **Classification of the substance or mixture**

Flam. Sol. 1	H228	Flammable solid.
Ox. Sol. 1	H271	May cause fire or explosion; strong oxidizer.
Acute Tox. 4	H302	Harmful if swallowed.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS02 GHS03 GHS07

· **Signal word:** Danger

· **Hazard-determining components of labeling:** Not applicable.
· **Hazard statements:**
H228 Flammable solid.
H271 May cause fire or explosion; strong oxidizer.
H302 Harmful if swallowed.
· **Precautionary statements:**

P221	Take any precaution to avoid mixing with combustibles.
P283	Wear fire/flame resistant/retardant clothing.
P210	Keep away from heat.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P264	Wash thoroughly after handling.
P280	Wear protective gloves / eye protection / face protection.

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P270	Do not eat, drink or smoke when using this product.
P306+P360	If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P371+P380+P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system**

· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 3

The substance possesses oxidizing properties.

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 3

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

· **Explosive Product Notice**

PREVENTION OF ACCIDENTS IN THE USE OF EXPLOSIVES - The prevention of accidents in the use of explosives is a result of careful planning and observance of the best known practices. The explosives user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.

WARNING - All explosives are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations, or ordinances. If you have any questions or doubts as to how to use any explosive product, DO NOT USE IT before consulting with your supervisor, or the manufacturer, if you do not have a supervisor. If your supervisor has any questions or doubts, he should consult the manufacturer before use.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7757-79-1	potassium nitrate	Ox. Sol. 2, H272	40-60%
7778-74-7	potassium perchlorate	Ox. Sol. 1, H271 Acute Tox. 4, H302	20-40%
16291-96-6	charcoal	Flam. Sol. 1, H228	<2%

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· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:**
Supply fresh air.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Seek medical treatment in case of complaints.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Brush off loose particles from skin.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation is experienced, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Blast injury if mishandled.
Breathing difficulty
Coughing
Dizziness
Methaemoglobinaemia
· **Danger:**
Danger of blast or crush-type injuries.
Danger of disturbed cardiac rhythm.
Harmful if swallowed.
· **Indication of any immediate medical attention and special treatment needed:**
Monitor circulation, possible shock treatment.
Medical supervision for at least 48 hours.
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
DO NOT fight fire when fire reaches explosives.
Flood area with water. If no water is available, carbon dioxide, dry chemical or earth may be used. If the fire reaches the cargo, withdraw and let fire burn.
· **For safety reasons unsuitable extinguishing agents:** None.

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· **Special hazards arising from the substance or mixture**
Explosive; fire, blast or projection hazard.
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information:**
Eliminate all ignition sources if safe to do so.
In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
Flammability Classification: (defined by 29 CFR 1910.1200) Explosive. Can explode under fire conditions. Individual devices will randomly explode. Mass explosion of multiple devices is possible under certain conditions. Burning material may produce toxic and irritating vapors. In unusual cases, shrapnel may be thrown from exploding devices under containment. See 2012 Emergency response Guidebook for further information.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures:**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Isolate area and prevent access.
Remove persons from danger area.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Keep people at a distance and stay upwind.
Protect from heat
Keep away from ignition sources.
Take any precaution to avoid mixing with combustibles.
· **Environmental precautions:** Avoid release to the environment.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Handle with care. Avoid jolting, friction and impact.
Use only in well ventilated areas.
Prevent formation of dust.
Any deposit of dust which cannot be avoided must be regularly removed.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.

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Protect from heat.
Keep respiratory protective device available.
Emergency cooling must be available in case of nearby fire.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Provide ventilation for receptacles.
Avoid storage near extreme heat, ignition sources or open flame.
Protect from humidity and water.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
Do not store together with oxidizing and acidic materials.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Keep away from heat.
This product is hygroscopic.
· **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid close or long term contact with the skin.
· **Engineering controls:** No relevant information available.
· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device in case of insufficient ventilation.
For spills, respiratory protection may be advisable.
· **Protection of hands:**
Gloves not required under normal conditions of use.
Wear protective gloves to handle contents of damaged or leaking units.
· **Eye protection:**


Safety glasses

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· **Body protection:**
Not required under normal conditions of use.
Protection may be required for spills.
· **Limitation and supervision of exposure into the environment**
No relevant information available.
· **Risk management measures**
Organizational measures should be in place for all activities involving this product.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**	
Form:	Unformed Mixture, Granules and Compressed Charges
Color:	Grey to Black.
· **Odor:**	Odorless
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	Not determined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Explosive when mixed with combustible material.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Oxidizer
· **Vapor pressure:**	Not determined.
· **Density:**	Not determined.
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.

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· **Other information** No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions:**
Explosive; fire, blast or projection hazard.
Reacts with strong acids.
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
Toxic fumes may be released if heated above the decomposition point.
· **Conditions to avoid:** Excessive heat.
· **Incompatible materials:** No relevant information available.
· **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Chlorine compounds
Nitrogen oxides (NOx)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** Based on available data, the classification criteria are not met.
· **On the eye:** Based on available data, the classification criteria are not met.
· **Sensitization:** No sensitizing effects known.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.
· **NTP (National Toxicology Program):**
None of the ingredients are listed.
· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):**
Danger of blast or crush-type injuries.

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Harmful if swallowed.
· **Repeated dose toxicity:** From product as supplied: None.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** The product contains materials that are harmful to the environment.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects:** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Incinerate in accordance with local, state and federal regulations.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT**	NA3178
· **ADR, IMDG**	UN0499
· **IATA**	Forbidden

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Trade name: American Pioneer Powder, Pellets, Sticks, and Super Sticks

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· **UN proper shipping name**	
· **DOT**	Smokeless powder for small arms
· **ADR**	0499 Propellant, Solid
· **IMDG**	Propellant, Solid
· **IATA**	Forbidden
· **Transport hazard class(es)**	
· **DOT**	
	
· **Class**	4.1 Flammable solids, self-reactive substances and solid desensitised explosives
· **Label**	4.1
· **ADR, IMDG**	
	
· **Class**	1 Explosive substances and articles
· **Label**	1.3C
· **IATA**	Forbidden
· **Packing group**	
· **DOT**	I
· **ADR**	Not regulated.
· **IMDG**	II
· **IATA**	Forbidden
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Explosive substances and articles
· **EMS Number:**	F-B,S-Y
· **Segregation groups**	Perchlorates
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: Forbidden On cargo aircraft only: Forbidden
· **IATA**	FORBIDDEN.

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**		
None of the ingredients are listed.		
· **Section 304 (emergency release notification):**		
None of the ingredients are listed.		
· **Sections 311/312 (hazardous chemical threshold planning quantity in pounds):**		
None of the ingredients are listed.		
· **Section 355 (extremely hazardous substances):**		
None of the ingredients are listed.		
· **Section 313 (Specific toxic chemical listings):**		
7757-79-1	potassium nitrate	
· **TSCA (Toxic Substances Control Act)**		
All ingredients are listed.		

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**		
None of the ingredients are listed.		
· **Chemicals known to cause reproductive toxicity for females:**		
None of the ingredients are listed.		
· **Chemicals known to cause reproductive toxicity for males:**		
None of the ingredients are listed.		
· **Chemicals known to cause developmental toxicity:**		
None of the ingredients are listed.		

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**		
7778-74-7	potassium perchlorate	NL
· **IARC (International Agency for Research on Cancer):**		
None of the ingredients are listed.		
· **NIOSH-Ca (National Institute for Occupational Safety and Health):**		
None of the ingredients are listed.		

· **Canadian substance listings**

· **Canadian Domestic Substances List (DSL):**
All ingredients are listed.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 03/21/2016 / -

· **Abbreviations and acronyms:**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Sol. 1: Flammable solids, Hazard Category 1
Ox. Sol. 1: Oxidising Solids, Hazard Category 1
Ox. Sol. 2: Oxidising Solids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4

· **Sources**
Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

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

Date of Issue: 27.09.2002
Version: 11.0
Revision Date: 17.4.2015

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

1.1 Product identifier

Product name: **SMOKELESS DOUBLE BASE POWDER LOVEX – without DNT and DBP**

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

For production of hunting, sporting and military ammunition. Do not use for other purposes.

1.3 Details of the supplier of the safety data sheet

Explosia a.s.
530 50 Pardubice - Semtin
Czech Republic

tel.: +420 466 825 202
fax: +420 466 822 941
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. 1.3; H203
Acute Tox. 2; H300+H310+H330
STOT RE 2; H373
Aquatic Chronic 2; H411

2.1.2 Classification according to Directive 67/548/EHS or 1999/45/ES
E; R2.
T+; R26/27/28.
R33
N; R51/53.

2.1.3 Additional information
For full text of R-phrases and Hazard- and EU Hazard statements see section 16.

2.2 Label elements

Hazard pictograms:

Signal word:
Danger.

Components of mixture for introducing on label:
Product contains nitroglycerin.

Hazard statements:
H203 Explosive; fire, blast or projection hazard.

Precautionary statements:
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P250 Do not subject to grinding/shock/…/friction.
P370 + P380 In case of fire: Evacuate area.
P373 DO NOT fight fire when fire reaches explosives.

Additional information on label:
-

2.3 Other hazards

The product does not meet the criteria for PBT, vPvB.
The product does not contain SVHC substances. Raw materials used for production of this product meet the requirements of REACH Regulation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Description of the mixture:

Mixture of nitrocellulose, glycerol trinitrate, diphenylamine, Centralite I, ethylacetate and other components.

Hazardous ingredients:

Identification name	CAS No ES No Index No Registration No	Content %	Classification according to 67/548/EEC	Classification according to (ES) 1272/2008 (CLP)
Nitrocellulose	9004-70-0 - 603-037-00-6 -	max. 87.0	E; R3	Expl. 1.1; H201
Glycerol trinitrate	55-63-0 2000-240-8 603-034-00-X -	max. 51.0	E; R3 T+; R26/27/28 R33 N; R51-53	Unst. Expl., H200 Acute Tox. 1, H310 Acute Tox. 2, H300+H330 STOT RE 2, H373 Aquatic Chronic 2, H411
Centralite I	85-98-3 201-645-2 - -	max. 8.0	Xn; R22 R52/53	Acute Tox.4, H302 Aquatic Chronic 3, H412
Diphenylamine	122-39-4 204-539-4 612-026-00-5 01-2119488966-13-0003	max. 1.5	T; R23/24/25 R33 N; R50/53	Acute Tox. 3; H301+ H311+ H331 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M=1
Ethylacetate	141-78-6 205-500-4 607-022-00-5 -	max. 1.2	F; R11 Xi; R36 R66 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066

For full text of R-phrases and Hazard- and EU Hazard statements 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. Always seek medical advice promptly.

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

Following skin contact:
Remove contaminated clothing immediately. Wash affected area with plenty of water and soap.

Following eye contact:
Flush eyes with moderate water stream for 15 min at minimum. Never neutralize. If the afflicted person is wearing contact lenses, they must be removed immediately.

Following ingestion:
Rinse mouth with fresh water, give to drink some 0,2-0,3 l water containing active carbon (e.g. 5 tbs Carbsorb) and within not more than one hour induce vomiting (meaningless if induced later). Give active carbon repeatedly, no matter if the vomiting was induced or not. Seek medical advice. Do not induce vomiting in case of unconsciousness, convulsions or bad physical conditions.

4.2 Most important symptoms and effects, both acute and delayed

Higher exposure may cause headaches, nausea, slowing the pulse frequency down and dizziness.

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: carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Heat, flame, spark, impact or friction, local overheating to the flash point and exposure to aggressive alkaline or acidic chemicals may cause ignition of dry powder. Extreme danger of explosion. Water-cool containers from the safe distance and try to prevent the spread of a fire. If the fire is out of control or involves propellants, then evacuate personnel to a safe distance.
In case of burning, toxic oxides of nitrogen and carbon 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 the free movement of persons in contaminated area. Wear personal protective equipment. Sprinkle the spilled product with water. Avoid spreading of the product. 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

Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only tools from non-sparking material. Incinerate only in the approved place 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 explosives. Keep away from open flame and hot pieces. Do not eat, drink or smoke. Take precautionary measures against the electrostatic discharges. Use only tools from non-sparking material. Maximum care should be taken during handling (lifting, transferring, opening of containers) and transport. Observe personal hygiene measures, wear suitable protective clothing and gloves. After handling wash thoroughly with water and soup. Ensure drink water for the first-aid.

7.2 Conditions for safe storage, including any incompatibilities

Store according to national regulations relating to explosives. Keep only in original containers under temperature not higher than 35 °C, out of reach of sources of ignition.

7.3 Specific end use(s)

Manufacturing and using ammunition - observe safety regulations for production and processing of explosives. When using, do not eat, drink or smoke. Observe general personal hygiene measures.

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

Occupational exposure limit values:

Substance / State	Long term mg/m^3	Short term mg/m^3
Glycerol trinitrate / Czech republic	PEL: 0,5	NPK-P: 1,0
Diphenylamine / Czech republic	PEL: 10	NPK-P: 20
Ethylacetate / Czech republic	PEL: 700	NPK-P: 900

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 in Czech Republic and European Union.

8.1.4 DNEL and PNEC values

DNEL a PNEC values for diphenylamine at registration are not determined.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Process enclosures, local exhaust, general ventilation.

8.2.2 Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. All used personal protective equipment should conform Regulation 89/686/EEC.
Eye and face protection - chemical goggles;
Skin protection - rubber gloves depending on operation, conforming EN 374, protective clothing, boots, cap;
Respiratory protection – dust filter mask if needed; in case of exceeding PEL use the respirator with filter protecting from organic vapours.

8.2.3 Environmental exposure controls

Do not exceed emission limits. Avoid release to the environment. If it is impossible, substance should be removed safely from the place of leakage. In case of leakage of the mixture to the 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:	solid - grains of grey-black colour
Odour:	odourless
Odour threshold:	not applicable
pH :	not available
Melting point/freezing point:	not available
Initial boiling point and boiling range:	not available
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:	ca 1.3 g.cm^{-3} (20 °C)

Solubility:	insoluble 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. 1.3C
Oxidising properties:	not applicable - explosive

9.2 Other information

Flash point: 165 to 175 °C.
Bulk density: 0.6 – 0.7 g.cm^{-3}.
Impact sensitivity: 5 to 30 J.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Explosive.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Unknown.

10.4 Conditions to avoid

Effects of heat, flame, mechanical or electric sparks, direct sun light and artificial ultraviolet radiation.

10.5 Incompatible materials

Strong oxidising agents, acids, alkalis and amines.

10.6 Hazardous decomposition products

Oxides of nitrogen and carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Fatal if swallowed, in contact with skin or if inhaled. (category 2) Glycerol trinitrate - LD_{50}: 685 mg.kg^{-1}, rat, oral Diphenylamine - LD_{50}: 1165 mg.kg^{-1}, rat, oral
Skin corrosion/irritation:	not containing these substances (or less than classification limit)
Serious eye damage/irritation:	not containing these substances (or less than classification limit)
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

Skin exposure and ingestion.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic life with long lasting effects. Aquatic Chronic 2; H411

Glycerol trinitrate	LC_{50} for freshwater fish: 3.48 mg.l^{-1}
Diphenylamine	LC_{50} for freshwater fish: 2.2 mg.l^{-1}
Difenylamin	EC_{50} for daphnia: 2 mg.l^{-1}, 48 h

Diphenylamine EC_{50} for algae: 2.17 mg.l^{-1}, 72 h

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: Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only non-sparking tools. Incinerate only in the place approved for explosives burning according to national regulations relating to explosives.

Packaging: Disposal by burning only in the place approved for this purpose according to 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:	0161 Note: This classification is valid only for the trademarks of smokeless powders in original packages classified this way by the Resolution on classification of dangerous goods of class 1.
14.2 UN proper shipping name:	POWDER SMOKELESS
14.3 Transport hazard class:	1
14.4 Packing group:	
14.5 Environmental hazards:	yes
14.6 Special precautions for user:	no
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	not applicable
14.8 Other applicable information:	
- for ADR/RID	
Classification code:	1.3C
Label:	1 + „fish and tree“
- for IMDG	
EmS	F-B, S-Y
- for IATA	Air transport is forbidden with the exception for packaging in the special powder cartridge SPN-01 in quantities 80 g of smokeless powder. The cartridge is classified as follows: UN 0349 ARTICLES, EXPLOSIVE, N.O.S., 1.4S.

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
Dangerous Substances Directive 67/548/EC
Dangerous Preparations Directive 1999/45/EC
European Waste Catalogue (EWC)
Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances – Annex 1, Part II

15.2 Chemical safety assessment

Assessment was not carried out.

SECTION 16: OTHER INFORMATION

Changes to the previous version:

Version 11.0 – Product classified in accordance with Regulation no. 1272/2008/EC.

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
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. 1	Acute toxicity, Category 1
Acute Tox. 2	Acute toxicity, Category 2
Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment acute, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment chronic, Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment chronic, Category 3
Expl. 1.1	Explosive, Division 1.1
Expl. 1.3	Explosive, Division 1.3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — single exposure, Category 3
Unst. Expl.	Unstable Explosive
EUH066	Repeated exposure may cause skin dryness or cracking.

H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H203	Explosive; fire, blast or projection hazard.
H225	Highly flammable liquid and vapour.

H300+330	Fatal if swallowed or if inhaled
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
M	Multiplying factor.

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P250	Do not subject to grinding/shock/…/friction.
P370 + P380	In case of fire: Evacuate area.
P373	DO NOT fight fire when fire reaches explosives.

E	Explosive
F	Highly flammable
N	Dangerous for the environment
T+	Very toxic
T	Toxic
Xi	Irritant
Xn	Harmful

R2	Risk of explosion by shock, friction, fire or other sources of ignition.
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R11	Highly flammable.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R36	Irritating to eyes.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

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

Relevant data for classification
The mixture is classified on the basis of the conventional calculation method.

Instructions for training
For handling with the product Safety Regulations shall be elaborated, negotiated with Regional Hygienist. These Regulations shall be available in the workplace. Training by competent person only.

Other information:
This safety data sheet is valid for the types: D 001-01 ($S4_N$ pro NSM), D 002-01 ($SIPE_N$ pro NSM), D 003-01 ($TECNA_N$ pro NSM), D 005-01 (BALISTIT 1 pro NSM), D 006-01 (BALISTIT 2 pro NSM), D 010, D 013, D 015, D 020, D 023, D 025, D 030, D 032, D 033, D 036, D 037-01 (D037.1 as reloading powder), D 037-02 (D037.2 as reloading powder), D 039, D 040-02, D 051-04, D 055, D 060, D 063, D 073-04 (D073.4 as reloading powder), D 073-05 (D073.5 as reloading powder), D 073-06 (D073.6 as reloading powder), D 073-07, D 105, D 250, D 252, D 254, D 256

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

Date of Issue: 26.09.2002
Version: 13.1
Revision Date: 3.10.2016

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

1.1 Product identifier

Product name: **SMOKELESS NITROCELLULOSE POWDER LOVEX – without DNT and DBP**

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

For production of hunting, sporting and military ammunition and in automotive industry. Do not use for other purposes.

1.3 Details of the supplier of the safety data sheet

Explosia a.s.
530 02 Pardubice - Semtin
Czech Republic
tel.: +420 466 825 202
fax: +420 466 822 941
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. 1.3; H203
Aquatic Chronic 3; H412

2.1.2 Additional information

For full text of Hazard- and EU Hazard statements see section 16.

2.2 Label elements

Hazard pictograms:

Signal word:
Danger.

Components of mixture for introducing on label:
-

Hazard statements:
H203 Explosive; fire, blast or projection hazard.

Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P250 Do not subject to grinding/shock/friction.
P370 + P380 In case of fire: Evacuate area.

P373 DO NOT fight fire when fire reaches explosives.

Additional information on label:
-

2.3 Other hazards

The product does not meet the criteria for PBT, vPvB. The product does not contain SVHC substances. Raw materials used for production of this product meet the requirements of REACH Regulation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Description of the mixture:

Mixture of nitrocellulose, diphenylamine, Centralite I, 2,4-dinitroanisole and other components.

Hazardous ingredients:

Identification name	CAS No ES No Index No Registration No	Content %	Classification according to (ES) 1272/2008 (CLP)
Nitrocellulose	9004-70-0 - 603-037-00-6 -	max. 98	Expl. 1.1; H201
Centralite I	85-98-3 201-645-2 - 01-2119969270-36-0000	max. 6.0	Acute Tox.4; H302 Aquatic Chronic 3; H412
Diphenylamine	122-39-4 204-539-4 612-026-00-5 01-2119488966-13-0003	0 – 2.0	Acute Tox. 3; H301+ H311+ H331 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M=1
2,4-Dinitroanisole	119-27-7 204-310-9 - -	0 - 4.0	Acute Tox.4; H302

For full text of Hazard- and EU Hazard statements 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. Always seek medical advice promptly.

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

Following skin contact:
Remove contaminated clothing immediately. Wash affected area with plenty of water and soap.

Following eye contact:
Flush eyes with moderate water stream for 15 min at minimum. Never neutralize. If the afflicted person is wearing contact lenses, they must be removed immediately.

Following ingestion:
Rinse the mouth with clean water, do not induce vomiting, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Higher exposure may cause headaches, nausea, slowing the pulse frequency down and dizziness.

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: carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Heat, flame, spark, impact or friction, local overheating to the flash point and exposure to aggressive alkaline or acidic chemicals may cause ignition of dry powder. Extreme danger of explosion. Water-cool containers from the safe distance and try to prevent the spread of a fire. If the fire is out of control or involves propellants, then evacuate personnel to a safe distance.
In case of burning, toxic oxides of nitrogen and carbon 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 the free movement of persons in contaminated area. Wear personal protective equipment. Sprinkle the spilled product with water. Avoid spreading of the product. 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

Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only tools from non-sparking material. Incinerate only in the approved place 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 explosives. Keep away from open flame and hot pieces. Do not eat, drink or smoke. Take precautionary measures against the electrostatic discharges. Use only tools from non-sparking material. Maximum care should be taken during handling (lifting, transferring, opening of containers) and transport. Observe personal hygiene measures, wear suitable protective clothing and gloves. After handling wash thoroughly with water and soup. Ensure drink water for the first-aid.

7.2 Conditions for safe storage, including any incompatibilities

Store according to national regulations relating to explosives. Keep only in original containers under temperature not higher than 35 °C, out of reach of sources of ignition.

7.3 Specific end use(s)

Manufacturing and using ammunition and in automotive industry - observe safety regulations for production and processing of explosives.
When using, do not eat, drink or smoke. Observe general personal hygiene measures.

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

Occupational exposure limit values:

Substance / State	Long term mg/m^3	Short term mg/m^3
Diphenylamine / Czech republic	PEL: 10	NPK-P: 20

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 in Czech Republic and European Union.

8.1.4 DNEL and PNEC values

DNEL a PNEC values for diphenylamine at registration are not determined.
Centralite I:
DNEL: Workers - Hazard via inhalation route - long term exposure – 0.196 mg/m^3
Workers - Hazard via dermal route - long term exposure – 0.056 mg/kg bw/day
General Population- Hazard via inhalation route - long term exposure – 0.048 mg/m^3
General Population - oral route - long term exposure – 0.028 mg/kg bw/day
PNEC: Aqua (freshwater) – 0.014 mg/l
Aqua (marine water) – 0.143 mg/l
Aqua (intermittent releases) – 0.143 mg/l
Sediment (freshwater) – 0.784 mg/kg
Sediment (marine water) – 0.791 mg/kg
Soil – 0.174 mg/kg
STP - 10 mg/l

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Process enclosures, local exhaust, general ventilation.

8.2.2 Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. All used personal protective equipment should conform Regulation 89/686/EEC.
Eye and face protection - chemical goggles;
Skin protection - rubber gloves depending on operation, conforming EN 374, protective clothing, boots, cap;
Respiratory protection – dust filter mask if needed; in case of exceeding PEL use the respirator with filter protecting from organic vapours.

8.2.3 Environmental exposure controls

Do not exceed emission limits. Avoid release to the environment. If it is impossible, substance should be removed safely from the place of leakage. In case of leakage of the mixture to the 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:	solid – grains of grey-black or yellow-brown colour
Odour:	odourless
Odour threshold:	not applicable
pH :	not available
Melting point/freezing point:	not available

Initial boiling point and boiling range:	not available
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:	1.10 – 1.65 $g.cm^{-3}$ (20 °C)
Solubility:	insoluble 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. 1.3C
Oxidising properties:	not applicable – explosive

9.2 Other information

Flash point: 165 to 175 °C.
Bulk density: 0.4 – 1.0 $g.cm^{-3}$.
Impact sensitivity: 5 to 30 J.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Explosive.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Unknown.

10.4 Conditions to avoid

Effects of heat, flame, mechanical or electric sparks, direct sun light and artificial ultraviolet radiation.

10.5 Incompatible materials

Strong oxidising agents, acids, alkalis and amines.

10.6 Hazardous decomposition products

Oxides of nitrogen and carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Diphenylamine - LD_{50}: 1165 $mg.l^{-1}$, rat, oral Centralite I - LD_{50}: 780.9 $mg.l^{-1}$, rat, oral
Skin corrosion/irritation:	not containing these substances (or less than classification limit)
Serious eye damage/irritation:	not containing these substances (or less than classification limit)
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:	not containing these substances (or less than classification limit)
Aspiration hazard :	not containing these substances (or less than classification limit)

11.2 Likely routes of exposure

Skin exposure and ingestion.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Mixture is classified as Aquatic Chronic 3; H412.
Diphenylamine - LC_{50}: 2.2 $mg.l^{-1}$, fish
Diphenylamine - EC_{50}: 2 $mg.l^{-1}$, 48 h, daphnia magna
Diphenylamine - EC_{50}: 2.17 $mg.l^{-1}$, 72 h, Pseudokirchnerella subcapitata
Centralite I - LC_{50}: 15.6 $mg.l^{-1}$, 96 h, fish
Centralite I - EC_{50}: 14.3 $mg.l^{-1}$, 48 h, daphnia magna
Centralite I - EC_{50}: 37.8 $mg.l^{-1}$, 72 h, Desmodesmus subspicatus

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: Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only non-sparking tools. Incinerate only in the place approved for explosives burning according to national regulations relating to explosives.

Packaging: Disposal by burning only in the place approved for this purpose according to 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:	0161 Note: This classification is valid only for the trade marks of smokeless powders in original packages classified this way by the Resolution on classification of dangerous goods of class 1.
14.2 UN proper shipping name:	POWDER SMOKELESS
14.3 Transport hazard class:	1
14.4 Packing group:	
14.5 Environmental hazards:	yes
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:	1.3C
Label:	1
- for IMDG	
EmS	F-B, S-Y
- for IATA	Air transport is forbidden with the exception for packaging in the special powder cartridge SPN according to the following table:

Type of SPN	UN No.	Classification Code	Proper Shipping Name	Applies to
SPN-01	0349	1.4S	ARTICLES, EXPLOSIVE, n.o.s.	80 g of all types of smokeless powders
SPN-02	0349	1.4S	ARTICLES, EXPLOSIVE, n.o.s.	2 x 150 g of smokeless powder S 501 or S 503
SPN-03	0479	1.4C	SUBSTANCES, EXPLOSIVE, n.o.s.	2 x 150 g of smokeless powder S 501
SPN-04	0479	1.4C	SUBSTANCES, EXPLOSIVE, n.o.s.	2 x 300 g of smokeless powder S 501 or S 503

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)
Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances – Annex 1, Part II

15.2 Chemical safety assessment

Assessment was not carried out.

SECTION 16: OTHER INFORMATION

Changes to the previous version:
Version 11.0 – Product classified in accordance with Regulation no. 1272/2008/EC.
Version 12.0 - Section 3 – Composition of the mixture, updating according to the Regulation no. 1272/2008/EC.
Version 13.0 – Section 8, 11, 12 – values for Centralite I were added
- Updating according to the Regulation (EU) 2015/830
- Section 16, Other information

Version 13.1 - Section 16, Other information

Abbreviations:

CAS	Chemical Abstracts Service
EN	European standard
EWC	The European Waste Catalogue
PEL	Permissible Exposure Limit, long-term limit (8 hours)
DNEL	derived no-effect level
PNEC	predicted no-effect concentration
NPK-P	Maximum allowable concentrations of chemicals in the workplace atmosphere, short-term limit
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 Acute 1 Hazardous to the aquatic environment acute, Category 1
Aquatic Chronic 1 Hazardous to the aquatic environment chronic, Category 1
Aquatic Chronic 3 Hazardous to the aquatic environment chronic, Category 3
Expl. 1.1 Explosive, Division 1.1
STOT RE 2 Specific target organ toxicity — repeated exposure, Category 2

H201 Explosive; mass explosion hazard.
H203 Explosive; fire, blast or projection hazard.
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
H302 Harmful if swallowed.
H373 May cause damage to organs.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
M multiplying factor

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

Relevant data for classification
The mixture is classified on the basis of the calculation method.

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

Other information:
This safety data sheet is valid for the types: S 010, S 011, S 012, S 015, S 016, S 020, S 022, S 030, S 032, S 035, S 040, S 050, S 053, S 055, S 060, S 062, S 065, S 070-04, S 070-05 (S 070 as reloading powder), S 070-06, S 071-03 (S 071 as reloading powder), S 082, S 085, S 100, S102-03, S102-04, S 104, S105-01, S 106-02, S 106-03, S110-01, S 180, S 200, S 500, S 501, S 502, S 503.

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

Date of Issue: 27.09.2002
Version: 11.0
Revision Date: 17.04.2015

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

1.1 Product identifier

Product name: **SMOKELESS DOUBLE BASE POWDER LOVEX – without DNT and with DBP**

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

For production of hunting, sporting and military ammunition. Do not use for other purposes.

1.3 Details of the supplier of the safety data sheet

Explosia a.s.
530 50 Pardubice - Semtin
Czech Republic

tel.: +420 466 825 202
fax: +420 466 822 941
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. 1.3; H203
Acute Tox. 1; H310
Acute Tox. 2; H300+H330
STOT RE 2; H373
Repr. 1B; H360Df
Aquatic Chronic 2; H411

2.1.2 Classification according to Directive 67/548/EHS or 1999/45/ES

E; R2.
T+; R26/27/28.
R33
Repr. Cat. 2; R61.
Repr. Cat. 3; R62.
N; R51/53.

2.1.3 Additional information

For full text of R-phrases and Hazard- and EU Hazard statements see section 16.

2.2 Label elements

Hazard pictograms:

Signal word:
Danger.

Components of mixture for introducing on label:
Product contains nitroglycerin and dibutylphtalate.

Hazard statements:
H203 Explosive; fire, blast or projection hazard.

Precautionary statements:
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P250 Do not subject to grinding/shock/…/friction.
P370 + P380 In case of fire: Evacuate area.
P373 DO NOT fight fire when fire reaches explosives.

Additional information on label:
Notice: "Restricted to professional users."

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 nitrocellulose, glycerol trinitrate, dibutylphthalate, diphenylamine, Centralite I, ethylacetate and other components.

Hazardous ingredients:

Identification name	CAS No ES No Index No Registration No	Content %	Classification according to 67/548/EEC	Classification according to (ES) 1272/2008 (CLP)
Nitrocellulose	9004-70-0 - 603-037-00-6 -	max. 80.0	E; R3	Expl. 1.1; H201
Glycerol trinitrate	55-63-0 2000-240-8 603-034-00-X -	max. 43.0	E; R3 T+; R26/27/28 R33 N; R51-53	Unst. Expl., H200 Acute Tox. 1, H310 Acute Tox. 2, H300+H330 STOT RE 2, H373 Aquatic Chronic 2, H411
Dibutylphthalate	84-74-2 201-557-4 607-318-00-4 01-2119493042-44-	max. 10.0	Repr.cat 2; R61 Repr.cat 3; R62 N; R 50	Repr. 1B; H360 Df Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M=1
Centralite I	85-98-3 201-645-2 - -	max. 9.0	Xn; R22 R52/53	Acute Tox.4, H302 Aquatic Chronic 3, H412
Diphenylamine	122-39-4 204-539-4 612-026-00-5 01-2119488966-13-0003	max. 1.5	T; R23/24/25 R33 N; R50-53	Acute Tox. 3; H301+H311+H331 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M=1
Ethylacetate	141-78-6 205-500-4 607-022-00-5 -	max. 1.0	F; R11 Xi; R36 R66 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066

For full text of R-phrases and Hazard- and EU Hazard statements 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. Always seek medical advice promptly.

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

Following skin contact:
Remove contaminated clothing immediately. Wash affected area with plenty of water and soap.

Following eye contact:
Flush eyes with moderate water stream for 15 min at minimum. Never neutralize. If the afflicted person is wearing contact lenses, they must be removed immediately.

Following ingestion:
Rinse mouth with fresh water, give to drink some 0,2-0,3 l water containing active carbon (e.g. 5 tbs Carbsorb) and within not more than one hour induce vomiting (meaningless if induced later). Give active carbon repeatedly, no matter if the vomiting was induced or not. Seek medical advice. Do not induce vomiting in case of unconsciousness, convulsions or bad physical conditions.

4.2 Most important symptoms and effects, both acute and delayed

Higher exposure may cause headaches, nausea, slowing the pulse frequency down and dizziness.

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: carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Heat, flame, spark, impact or friction, local overheating to the flash point and exposure to aggressive alkaline or acidic chemicals may cause ignition of dry powder. Extreme danger of explosion. Water-cool containers from the safe distance and try to prevent the spread of a fire. If the fire is out of control or involves propellants, then evacuate personnel to a safe distance.
In case of burning, toxic oxides of nitrogen and carbon 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 the free movement of persons in contaminated area. Wear personal protective equipment. Sprinkle the spilled product with water. Avoid spreading of the product. 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

Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only tools from non-sparking material. Incinerate only in the approved place 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 explosives. Keep away from open flame and hot pieces. Do not eat, drink or smoke. Take precautionary measures against the electrostatic discharges. Use only tools from non-sparking material. Maximum care should be taken during handling (lifting, transferring, opening of containers) and transport. Observe personal hygiene measures, wear suitable protective clothing and gloves. After handling wash thoroughly with water and soup. Ensure drink water for the first-aid.

7.2 Conditions for safe storage, including any incompatibilities

Store according to national regulations relating to explosives. Keep only in original containers under temperature not higher than 35 °C, out of reach of sources of ignition.

7.3 Specific end use(s)

Manufacturing and using ammunition - observe safety regulations for production and processing of explosives. When using, do not eat, drink or smoke. Observe general personal hygiene measures.

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

Occupational exposure limit values:

Substance / State	Long term mg/m^3	Short term mg/m^3
Glycerol trinitrate / Czech republic	PEL: 0,5	NPK-P: 1,0
Diphenylamine / Czech republic	PEL: 10	NPK-P: 20
Dibutylphthalate / Czech republic	PEL: 5	NPK-P: 10
Ethylacetate / Czech republic	PEL: 700	NPK-P: 900

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 in Czech Republic and European Union.

8.1.4 DNEL and PNEC values

Dibutylphthalate				**CAS No 84-74-2**
DNEL				
Users	Route of study	Effects	Time of exposure	Value
Workers	Inhalation	Systemic effects	Long-term	4,17 mg/m^3
Workers	Inhalation	Systemic effects	Acute/short term	8,52 mg/m^3
Workers	Dermal	Systemic effects	Long-term	7,22 mg/kg/day
General population	Inhalation	Systemic effects	Long-term	0,62 mg/m^3
General population	Dermal	Systemic effects	Long-term	2,2 mg/kg/day
General population	Oral	Systemic effects	Long-term	0,22 mg/kg/day

PNEL							
Freshwater	Marine water	Intermittent releases	STP	Sediment (freshwater)	Sediment (marine water)	Soil	Secondary poisoning
10 µg/l	1 µg/l	4,8 µg/l	0,22 mg/l	1,19 mg/kg	0,119 mg/kg	0,05 mg/kg	1,33 mg/kg food

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Process enclosures, local exhaust, general ventilation.

8.2.2 Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. All used personal protective equipment should conform Regulation 89/686/EEC.

Eye and face protection - chemical goggles;
Skin protection - rubber gloves depending on operation, conforming EN 374, protective clothing, boots, cap;
Respiratory protection – dust filter mask if needed; in case of exceeding PEL use the respirator with filter protecting from organic vapours.

8.2.3 Environmental exposure controls

Do not exceed emission limits. Avoid release to the environment. If it is impossible, substance should be removed safely from the place of leakage. In case of leakage of the mixture to the 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:	solid (grains + tubules) of grey-black colour
Odour:	odourless
Odour threshold:	not applicable
pH :	not available
Melting point/freezing point:	not available
Initial boiling point and boiling range:	not available
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:	ca 1.3 $g.cm^{-3}$ (20 °C)
Solubility:	insoluble 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. 1.3C
Oxidising properties:	not applicable - explosive

9.2 Other information

Flash point: 165 to 175 °C.
Impact sensitivity: 5 to 30 J.
Bulk density: min. 0.92 $g.cm^{-3}$.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Explosive.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Unknown.

10.4 Conditions to avoid

Effects of heat, flame, mechanical or electric sparks, direct sun light and artificial ultraviolet radiation.

10.5 Incompatible materials

Strong oxidising agents, acids, alkalis and amines.

10.6 Hazardous decomposition products

Oxides of nitrogen and carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Fatal if swallowed (category 2), in contact with skin (category 1) or if inhaled (category 2).
	Glycerol trinitrate LD_{50}: 685 $mg.kg^{-1}$, rat, oral
	Diphenylamine LD_{50}: 1165 $mg.kg^{-1}$, rat, oral
	Dibutylphthalate LD_{50}: 6279 $mg.kg^{-1}$, rat, oral
	Dibutylphthalate LC_{50}: ≥15,68 $mg.l^{-1}$, 4h, rat, inhal
Skin corrosion/irritation:	not containing these substances (or less than classification limit)
Serious eye damage/irritation:	not containing these substances (or less than classification limit)
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:	May damage the unborn child. Suspected of damaging fertility. Repr. 1B; H360Df
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

Skin exposure and ingestion.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic life with long lasting effects. Aquatic Chronic 2; H411

Glycerol trinitrate - LC_{50} for freshwater fish: 3.48 $mg.l^{-1}$	
Diphenylamine	LC_{50} for freshwater fish: 2.2 $mg.l^{-1}$
Diphenylamine	EC_{50} for daphnia: 2 $mg.l^{-1}$, 48 h
Diphenylamine	EC_{50} for algae: 2.17 $mg.l^{-1}$, 72 h
Dibutylphthalate	LC_{50} for freshwater fish: 0.035 $mg.l^{-1}$
Dibutylphthalate	EC_{50} for daphnia: ca. 2.99 $mg.l^{-1}$, 48 h

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: Sprinkle spilled powder with water, sweep up carefully and place into impermeable containers. Use only non-sparking tools. Incinerate only in the place approved for explosives burning according to national regulations relating to explosives.

Packaging: Disposal by burning only in the place approved for this purpose according to 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:	0161 Note: This classification is valid only for the trade marks of smokeless powders in original packages classified this way by the Resolution on classification of dangerous goods of class 1.
14.2 UN proper shipping name:	POWDER SMOKELESS
14.3 Transport hazard class:	1
14.4 Packing group:	
14.5 Environmental hazards:	yes
14.6 Special precautions for user:	no
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	not applicable
14.8 Other applicable information:	
- for ADR/RID	
Classification code:	1.3C
Label:	1 + „fish and tree“
- for IMDG	
EmS	F-B, S-Y
- for IATA	Air transport is forbidden with the exception for packaging in the special powder cartridge SPN-01 in quantities 80 g of smokeless powder. The cartridge is classified as follows: UN 0349 ARTICLES, EXPLOSIVE, N.O.S., 1.4S.

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
Dangerous Substances Directive 67/548/EC
Dangerous Preparations Directive 1999/45/EC
European Waste Catalogue (EWC)
Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances – Annex 1, Part II

Authorisation:
Dibutylphthalate contained in the product is subject to authorisation according to the Regulation No. 142/2011/EC, amending the Appendix XIV of the Regulation No. 1907/2006/EC.

Latest application date: 21 August 2013
Sunset date: 21 February 2015

15.2 Chemical safety assessment

Assessment was not carried out.

SECTION 16: OTHER INFORMATION

Changes to the previous version:

Version 11.0 **–** Product classified in accordance with Regulation no. 1272/2008/EC.

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
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. 1	Acute toxicity, Category 1
Acute Tox. 2	Acute toxicity, Category 2
Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment acute, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment chronic, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment chronic, Category 3
Expl. 1.1	Explosive, Division 1.1
Expl. 1.3	Explosive, Division 1.3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Repr. Cat. 2	Reproductive toxicity, Category 2
Repr. Cat. 3	Reproductive toxicity, Category 3
STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — single exposure, Category 3
Unst. Expl.	Unstable Explosive
EUH066	Repeated exposure may cause skin dryness or cracking.
M	Multiplying factor

H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H203	Explosive; fire, blast or projection hazard.
H225	Highly flammable liquid and vapour.
H300+H330	Fatal if swallowed or if inhaled.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H360Df	May damage the unborn child. Suspected of damaging fertility.
373	May cause damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P250	Do not subject to grinding/shock/…/friction.
P370 + P380	In case of fire: Evacuate area.
P373	DO NOT fight fire when fire reaches explosives.
E	Explosive
F	Highly flammable
N	Dangerous for the environment
T+	Very toxic
T	Toxic
Xi	Irritant
Xn	Harmful
R2	Risk of explosion by shock, friction, fire or other sources of ignition.
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R11	Highly flammable.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R36	Irritating to eyes.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R62	Possible risk of impaired fertility.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

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

Relevant data for classification
The mixture is classified on the basis of the conventional calculation method.

Instructions for training
For handling with the product Safety Regulations shall be elaborated, negotiated with Regional Hygienist. These Regulations shall be available in the workplace. Training by competent person only.

Other information:
This safety data sheet is valid for the types: D 051-01, D 051-02, D 051-03, D 073-01, D 073-02, D 073-03, D 083, D 100 a D 103.