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1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **Rifle, pistol and revolver cartridges
with Centerfire cartridges with BOXER primer
and NEROXIN composition**

1.2 Relevant identified uses of the product

Ammunition for sports, hunting and defence purposes.

1.3 Producer Identification

Sellier & Bellot a.s.

Lidická 667

258 01 Vlašim

Czech Republic

Phone: +420 317 891 111

contact to responsible persons for this MSDS: kremlova@sellier-bellot.cz
kratochvil@sellier-bellot.cz

1.4 Emergency telephone number

National advisory body: You can consult first aid details with the Toxicological information centre (TIS): Klinika nemocí z povolání (Department of occupational diseases), Na Bojišti 1, 128 08 Prague 2, phone: 224 919 293 or 224 915 402. Non-stop poison emergency line.

2. Hazards identification

According to Article 3 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council the cartridges are considered to be an article comprising four basic parts: bullet, cartridge case, propellant (powder) and primer.

Dangerous composition inside the cartridge (primer composition and other compositions in the cartridge - propellant) are an integral part of the cartridge.

Under recommended conditions of storage, handling and use, the substances are not intended to be released in accordance with Article 7 par. 1 b) of the REACH Regulation.

2.1 Classification of the product

According to Regulation (EC) No 1272/2008 (CLP):

Hazard class: **Article containing an explosive**

Hazard category: **Division 1.4**

Code: **Expl. 1.4**

2.2 Label elements

According to Regulation (EC) No 1272/2008(CLP):



Hazard pictograms:

Signal word:

Hazard statements:

Precautionary statements:

WARNING

H 204 Fire or projection hazard.

P 210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

2.3 Other hazards

**The product does not fulfill the criteria for classification as PBT or vPvB.
The product contain SVHC substances – for more information refer to Section 3.1.
The raw materials used for its production fulfill the requirements of REACH.**

Risk of explosion may be caused by fire, by a spark, flame or other sources of ignition (e.g. static electricity, mechanical/electrical device).

In case of accidental fire, the individual cartridges are activated without the transition to mass explosion (collective explosion). Spray of individual cartridge elements with low weight may occur (e.g. cartridge casing fragments, bullets, primer cups), which can cause eye damage or burn unprotected skin.

Potential effects on human health in case of fire (or after firing):

- no acute effect is known during normal handling
- skin contact - can cause allergic reaction in sensitive individuals
- eye contact - combustion gases (smoke) may irritate the eyes, cause eye redness and lacrimation
- inhalation - inhalation of combustion gases may cause irritation of the nose, larynx, upper respiratory tract and lungs Irritation may lead to bronchitis, headache, lowering of blood pressure and general weakness.
- ingestion - absorption may cause strong headache, nausea, vomiting, abdominal pain, fatigue, diarrhoea, tremor, ringing in the ears and salivation

Disassembly of cartridges is prohibited.

3. **Composition/information on ingredients**

The cartridges comprise four basic parts (elements):

- bullet: lead (may contain small portion of antimony) brass (copper + zinc), iron
- cartridge case: brass
- primer: brass primer cup is filled with dry priming composition with the trade name NEROXIN, which is covered with a paper cover disc with PE foil. A three-winged anvil is pressed into the filled cup. All primer parts create a solid unit.

NEROXIN priming composition: mixture of TNRO, tetrazene, barium nitrate, calcium silicide, lead oxides and other components

- propellant: mixture of nitrocellulose, diphenylamine, nitroglycerine, centralite I, ethyl acetate, 2-4 dinitroanisole and other compounds

The inner surface of the case neck can be coated with asphalt coating or the entire surface of the cartridge may be waxed.

Used materials (chemical substances and mixtures) classified as hazardous according to CLP are specified in the following table, including their weight percentage of individual chemicals contained in the components.

3.1 Primer composition (priming composition), integral part of the cartridge
Hazardous substances in the mixture

Chemical substance	CAS No.	EC No.	% in the composition	classification according to Regulation (EC) No 1272/2008 (CLP)
lead styphante (2,4,6-trinitrobenzene-1,3-diolate)	15245-44-0	239-290-0	39 - 45	Expl. 1.1; H201 Repr. 1A; H360 - Df Acute Tox. 4; H332 Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic1; H410
tetrazene	31330-63-9		3 - 4	Expl. 1.1; H201 Eye Irrit. 2; H319 Skin Irrit. 2; H315 Acute Tox. 4; H302 Acute Tox. 4; H332
antimony trisulfide	1345-04-6	215-713-4	0 - 21	Acute Tox. 4; H332 Acute Tox. 4; H302 Aquatic Chronic 2; H411
barium nitrate	10022-31-8	233-020-5	27 - 46	Ox. Sol. 2; H272 Acute Tox. 4; H302 Acute Tox. 4; H332
lead(II,IV) oxide (orange lead)	1314-41-6	215-235-6	0.2	Ox. Sol. 3; H272 Repr. 1A; H360 - Df Acute Tox. 4; H332 Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic1; H410
lead dioxide	1309-60-0	215-174-5	1 - 1.3	Ox. Sol. 3; H272 Repr. 1A; H360 - Df Acute Tox. 4; H332 Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic1; H410

Hazardous substances in the mixture, continuation:

Chemical substance	CAS No.	EC No.	% in the composition	classification according to Regulation (EC) No 1272/2008 (CLP)
penthrite	78-11-5	201-084-3	0 – 7.8	Expl. 1.1; H201
calcium silicide (FeSiCa ground)	-	-	0 – 10%	

Cartridges contain the priming composition substance 2,4,6-trinitrobenzene-1,3-dioxide, lead (lead styphnate, CAS No. 15245-44-0). In some types of cartridges the amount exceeds 0.1 % of the total weight of the cartridges.

Further cartridges contain the priming composition substance lead(II,IV) oxide, CAS No. 1314-41-6. The amount does not exceed 0.1 % of the total weight of the cartridges.

These substances are included in the “Candidate List of Substances of Very High Concern” (issued by the European Chemicals Agency).

3.2 Mixture - Propellant, integral part of the cartridge

Hazardous substances in the mixture:

Chemical substance	CAS No.	EC No.	% Propellant	classification according to Regulation (EC) No 1272/2008 (CLP)
nitroglycerine	55-63-0	200-240-8	0-42	Ox. Sol. 3; H272 Repr. 1A; H360 - Df Acute Tox. 4; H332 Acute Tox. 4; H302 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic1; H410
nitrocellulose	9004-70-0	215-174-5	remaining portion	Expl. 1.1; H201
diphenylamine	122-39-4	204-539-4	0-1.50	Acute Tox. 3. H301+H311+H331 STOT RE 2; H373 Aquatic Chronic1; H410
centralite I	85-98-3	201-645-2	0 - 8	Acute Tox. 4; H302 Aquatic Chronic 3; H412
ethyl acetate	141-78-6	205-500-4		Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336
dibutyl phthalate	84-74-2	201-557-4	0 - 9	Repr. 1B; H360 - Df Aquatic Acute 1; H400
2,4-dinitroanisole	119-27-7	204-310-9	0 - 4,0	Acute Tox.4; H302

Some types of cartridges may contain the propellant substance dibutyl phthalate (CAS No. 84-74-2), which is subject to authorization - see Section 15th.

For full wording of H and EUH phrases refer to Section 16.

4. First aid measures

Under recommended way of use, the cartridges pose no health hazard.
 First aid may be necessary when substances are accidentally released from cartridges.
 Small amount of breathable, harmful particles can form during firing.

Inhalation:

The following symptoms may develop: unconsciousness, vomiting, cardiac dysrhythmia, headache, convulsions, blurred vision, nausea.

Interrupt exposure, remove the affected person to fresh air. In case of unconsciousness, start resuscitating (cardiopulmonary resuscitation) and seek medical advice.

Skin contact:

Remove contaminated clothing and wash thoroughly with soap and water (lukewarm if possible). Do not use solvents or thinners. If the problems persist, seek medical attention.

Eye contact:

Flush eyes with a gentle stream of water for at least 15 minutes. Use your thumb and index finger to hold eyelids wide open. Remove contact lenses, if present and easy to do before flushing. Seek specialized medical attention.

Ingestion:

Rinse mouth with fresh water, drink ca. 0.2-0.3 l of water (lukewarm if possible) with a spoon of liquid soap and powder or crushed activated charcoal corresponding to ca. 5 tablets. Induce vomiting within one hour from ingestion. Do not induce vomiting during unconsciousness, convulsions or general bad state.

Administer activated charcoal regardless of whether vomiting was induced or not. Seek medical attention.

5. Firefighting measures

5.1 Extinguishing media

Water spray, extinguishing powder, foam, CO₂ or just soil.

5.2 Special hazards arising from the substance or mixtures

Toxic substances may be released during combustion - nitrogen oxides and carbon oxides and metal oxides.

In case of fire, **the individual cartridges are activated without transition to mass explosion (collective explosion)**. As spray of individual cartridge elements with low weight may occur, fire should be extinguished from a safe distance (at least 5 metres), protective clothing and eye protection must be used. Prevent movement of unauthorized persons in the vicinity of fire.

During transport the crew must not try to extinguish fire of the load (transported cartridges). There is a risk of eye damage or burns to unprotected skin.

5.3 Advice for firefighters

Use fireproof turnout gear with face shield (e.g. OL 2 type), self-contained breathing apparatus (or respirator).

Fire characteristics of materials

NEROXIN priming composition: ignition temperature 260-270 °C

Propellant: flash point – 140 °C
ignition temperature – 135 °C

Inserts (plastic, cardboard): burn when ignited.

Packaging (cardboard, layered cardboard): packaging must be protected before sources of heat with temperature exceeding 100 °C during storage, ignition temperature 427 °C.

6. Accidental release measures**6.1 Personal precautions**

Prevent free movement of persons in the place of release.

Prevent contact of spilled cartridges and their compositions with open fire, electric sparks and chemically aggressive substances.

Personal Care after Exposure : There are no medical conditions known to be aggravated by exposure to this product in solid form.

6.2 Environmental precautions

Avoid contamination of soil and water with cartridges compositions. Do not throw cartridges or their parts into the sewer.

6.3 Methods and material for containment and cleaning up

Sweep up the spilled cartridges, primers, priming compositions or parts of primers carefully and place them into leakproof packages as waste (this waste is considered dangerous waste and must be handled as dangerous waste according to ADR, including the used package), do not raise dust, ventilate the area. Dispose of waste at an approved waste disposal facility in accordance with applicable regulations. Prevent release into the sewer and the environment. Use tools made of non-sparking materials.

6.4 Reference to other sections

For more information refer to Section 13.

7. Handling and storage**7.1 Precautions for safe handling**

Handle cartridges according to regulations for use of ammunition. The users must be made familiar with these regulations. There is no danger during normal handling. Do not eat, drink, smoke or use open fire when handling cartridges. The cartridges must be protected from the effects of radiating heat and mechanical or electrical sparks. The cartridges may not be exposed to impact or mechanical friction. **It is prohibited to disassemble, modify or rough-handle the cartridges!**

Wash your hands with lukewarm water and soap after work and especially before eating, it is recommended that you use protective hand cream after washing.

7.2 Conditions for safe storage

The cartridges must be stored in their original packaging in dry, clean and ventilated storerooms and they must be protected against weather effects, soil moisture, radiating heat of heating elements and against direct sunshine. They may not be exposed to mechanical impacts. Relative air humidity in storerooms must not exceed 60 %, air temperature must be between 5 °C and 30 °C. The cartridges must be stored so that safety requirements of applicable regulations are met.

7.3. Specific end uses

Using only to authorized users.

Cartridges that have not been initiated may not be handed over for disposal to an unauthorised person. Proceed according to regulations on the use and disposal of ammunition.

8. Exposure controls/personal protection

8.1 Recommended exposure limits for professional use

Chemical substance	CAS No.	EC No.	PEL (mg/m3)	NPK-P (mg/m3)	legislation
carbon oxide	630-08-0	211-128-3	30	150	Government decree No. 361/2007 Coll.
carbon	124-38-9	204-696-9	9000	45000	Government decree No. 361/2007 Coll.
dust			10	150	Government decree No. 361/2007 Coll.

Exposure limits of individual substances are specified in national regulations of the Czech Republic.

Exposure limits for individual substances contained in the priming composition and propellant are specified in the national regulations.

Under recommended way of use, these substances are not released or their quantity is insignificant.

8.2 Exposure controls

Engineering controls

Sealing, local exhaustion, ventilation.

Personal protection

Hand protection - it is recommended that you wear gloves during long-term handling of cartridges.

Body protection - work clothing.

Other - do not eat, drink, smoke or use open fire when handling cartridges. Observe personal hygiene principles. Eye protection and hearing protection is recommended during shooting.

In case of high concentration of smoke, it is recommended that you use an approved respirator. Store the cartridges away from ignition sources.

9. Physical and chemical properties

Appearance	compact unit comprising the case, bullet and primer
Form	solid
Odour	no
Specific weight	not applicable
Bulk density	not applicable
Boiling point	not applicable

Melting point	not applicable
Vapour density	not applicable
Evaporation rate	not applicable
Solubility in water	not applicable
pH	not applicable

10. Stability and reactivity

10.1 Reactivity

Article containing an explosive .The product is stable under normal conditions of use (pressure, temperature).

10.2 Chemical stability

The product is stable under normal conditions of use.

10.3 Possibility of hazardous reactions

No data.

10.4 Conditions to avoid

Rough handling, effects of intense radiating heat, flame, mechanical or electrical sparks, static electricity and effects of impact or friction.

10.5 Incompatible materials

Chemically aggressive acidic or alkaline substances and strong oxidizing agents.

10.6 Hazardous decomposition products

Irritating gases and aerosols – CO, CO₂, NO_x, and metal oxides – may be released during combustion.

11. Toxicological information

Not available.

Hazardous substances contained in the product may be harmful, however, as they are encapsulated in the product, their releasing is not expected under normal conditions of use.

It is prohibited to disassemble the cartridges.

12. Ecological information

Not available.

Hazardous substances contained in the product may be harmful to the environment, however, as they are encapsulated in the product, their releasing into the environment is not expected under normal conditions of use.

It is prohibited to disassemble the cartridges.

13. Disposal considerations

13.1. Waste treatment method

Cartridges and waste parts are considered dangerous articles. The user of this product is responsible for using this product and handling its remnants (waste) and the packaging. Proceed in compliance with all relevant local and national regulations and laws in respect to handling and storage of the products and their waste.

Non-contaminated packaging and initiated cases (after initiation cartridges) are not considered hazardous waste and can be recycled.

Cartridges that have not been initiated may not be handed over for disposal to an unauthorised person. Proceed according to regulations on the use and disposal of ammunition.

14. Transport information

Transport by road and rail (ADR/RID)

Classification	1.4 S
UN No.	UN 0012
Official designation	CARTRIDGES, SMALL ARMS or CARTRIDGES FOR WEAPONS, INERT PROJECTILE
Safety label	no. 1.4
Packaging group	not applicable (packagings must meet requirements for packaging group II)

Remark: Cartridges may be transported in accordance with 1.1.3.6 ADR – Exemptions related to quantities carried per transport unit.

Transport by inland waterways and sea (ADN/IMDG-Code)

Classification	1.4 S
UN No.	UN 0012
Official designation	CARTRIDGES, SMALL ARMS or CARTRIDGES FOR WEAPONS, INERT PROJECTILE
Safety label	no. 1.4
Packaging group	not applicable (packagings must meet requirements for packaging group II)

Transport by air (ICAO/IATA-DGR)

Classification	1.4 S
UN No.	UN 0012
Official designation	CARTRIDGES, SMALL ARMS or CARTRIDGES FOR WEAPONS, INERT PROJECTILE
Safety label	no. 1.4
Packaging instructions	PGI 130
Packaging group	not applicable (packagings must meet requirements for packaging group II)

Remark: Transport packaging up to 25 kg net weight can be transported by personal air transport and up to 100 kg net weight can be transported by freight air transport.

15. Regulatory information

15.1 Safety, health and environmental regulations

EU legislation:

REACH regulation: Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, as amended

CLP regulation: Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

Dangerous Substances Directive 67/548/EEC

Dangerous Preparations Directive 1999/45/EC

Legislation in the Czech Republic:

Government Decree No. 361/2007 Coll., laying down conditions for the protection of employees' health at work, as amended

Act No. 258/2000 Coll., on public health protection, as amended

Act No. 262/2006 Coll., the labour code, as amended

Act No. 201/2012 Coll., on air pollution, as amended

Act No. 350/2011 Coll., on chemical substances and chemical compositions

Decree of the Ministry of Interior No. 246/2001, Coll., on fire prevention and related legal provisions, as amended

Act No. 119/2002 Coll., on firearms and ammunition, as amended

Statement of the Ministry of Foreign Affairs of the Czech Republic No. 8/2013 Collection of International Treaties, The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), as amended

Authorization under REACH:

Some types of cartridges may contain propellant dibutyl phthalate (CAS No. 84-74-2) in an amount more than 0.3% of the total weight of propellant (mixture).

This substance is identified in the list of the Authorization - Annex XIV of Regulation no. 1907/2006 (REACH). For the substance has been requested authorization for the use of the substance in the military and civilian ammunition.

15.2 Chemical Safety Assessment

Has not been done.

16. Other information**H statements used in Section 3.1 and 3.2:****Classification according to Regulation (EC) No 1272/2008 (CLP)**

H 201	Explosive; mass explosion hazard.
H 225	Highly flammable liquid and vapour.
H 272	May intensify fire; oxidiser.
H 301	Toxic if swallowed.
H 302	Harmful if swallowed.
H 311	Toxic in contact with skin.
H 315	Causes skin irritation.
H 319	Causes serious eye irritation
H 331	Toxic if inhaled.
H 332	Harmful if inhaled.
H 336	May cause drowsiness or dizziness.
H 341	Suspected of causing genetic defects.
H 350	May cause cancer.
H 373	May cause damage to organs.
H 400	Very toxic to aquatic life.
H 410	Very toxic to aquatic life with long lasting effects.
H 411	Toxic to aquatic life with long lasting effects.
H 412	Harmful to aquatic life with long lasting effects.
H 360-Df	May damage fertility or the unborn child.
H 361-Df	Damage of fertility or the unborn child.
EUH 066	Repeated exposure may cause skin dryness or cracking

The information provided in this MSDS is based on our current knowledge and experience. It describes the product with the focus on safe handling of the product - its use, storage, handling and disposal, and cannot be considered guaranteed values. The user is responsible for compliance with valid laws and regulations when using our products.