

Date of issue: 16 June 2014

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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.**

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Czech Republic

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contact to responsible persons for this MSDS: [kremlova@sellier-bellot.cz](mailto:kremlova@sellier-bellot.cz)  
[kratochvil@sellier-bellot.cz](mailto: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.

The cartridges substance lead 2,4,6-trinitrobenzene-1,3-diolate (2,4,6-trinitroresorcinolate or lead styphnate, CAS No. 15245-44-0) in quantities exceeding 0.1% of the total weight of the cartridge. The above-mentioned substance is included in the "Candidate List of Substances of Very High Concern" (issued by the European Chemicals Agency).

Besides, some types of cartridges may contain dinitrotoluene (CAS No. 121-14-2) and dibutyl phthalate (CAS No. 84-74-2) as propellant in quantities exceeding 0.1% of the total weight of the cartridge.

Both substances are listed in the List of Substances Subject to Authorisation - Annex XIV of the REACH Regulation.

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:

### 2.1.1 according to Regulation (EC) No 1272/2008 (CLP)

Hazard class: **Article containing an explosive**  
Hazard category: Division 1.4  
Code: Expl. 1.4

### 2.1.2 according to Directive 1999/45/EC: not applicable

## 2.2 Label elements:

### 2.2.1 according to Regulation (EC) No 1272/2008:

Hazard pictograms:



Signal word:

Hazard statements:

Precautionary statements:

#### **WARNING**

**H 204** Fire or projection hazard.

**P 210** Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

### 2.2.2 according to Directive 1999/45/EC:

This directive does not specify any labelling for this article.

## 2.3 Other hazards

The cartridge contains dangerous substances in the form of pressed composition. These substances are not released from the cartridge under normal and recommended way of use.

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, dinitrotoluene, diphenylamine, nitroglycerine, centralite I, ethyl acetate 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)                                                                                            | classification according to Directive 67/548/EEC                    |
|---------------------|------------|-----------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| lead styphnate      | 15245-44-0 | 239-290-0 | 39 - 45              | Expl. H 201<br>Repr. 1A; H360 - Df<br>Acute Tox. 4; H332<br>Acute Tox. 4; H302<br>STOT RE 2; H373<br>Aquatic Acute 1; H400<br>Aquatic Chronic1; H410      | E; R3<br>Repr. 1; R61<br>Repr. 3; R62<br>Xn; R20/22-33<br>N; R50/53 |
| tetrazene           | 31330-63-9 |           | 3 - 4                | Expl. H 201<br>Eye Irrit. 2; H319<br>Skin Irrit. 2; H315<br>Acute Tox. 4; H302<br>Acute Tox. 4; H332                                                      |                                                                     |
| antimony trisulfide | 1345-04-6  | 215-713-4 | 0 - 21               | Acute Tox. 4; H332<br>Acute Tox. 4; H302<br>Aquatic Chronic 2; H411                                                                                       | Xn; R20/22<br>N; R51/53                                             |
| barium nitrate      | 10022-31-8 | 233-020-5 | 27 - 46              | Ox. Sol. 2; H272<br>Acute Tox. 4; H302<br>Acute Tox. 4; H332                                                                                              | O; R8<br>Xn; R20/22                                                 |
| lead(II,IV) oxide   | 1314-41-6  | 215-235-6 | 0.2                  | Ox. Sol. 3; H272<br>Repr. 1A; H360 - Df<br>Acute Tox. 4; H332<br>Acute Tox. 4; H302<br>STOT RE 2; H373<br>Aquatic Acute 1; H400<br>Aquatic Chronic1; H410 | Repr. 1; R61<br>Repr. 3; R62<br>O; R8<br>Xn; R20/22-33<br>N; R50/53 |
| lead dioxide        | 1309-60-0  | 215-174-5 | 1 - 1.3              | Ox. Sol. 3; H272<br>Repr. 1A; H360 - Df<br>Acute Tox. 4; H332<br>Acute Tox. 4; H302<br>STOT RE 2; H373<br>Aquatic Acute 1; H400<br>Aquatic Chronic1; H410 | Repr. 1; R61<br>Repr. 3; R62<br>O; R8<br>Xn; R20/22-33<br>N; R50/53 |

**Hazardous substances in the mixture, continuation:**

| Chemical substance       | CAS No. | EC No.    | % in the composition | classification according to Regulation (EC) No 1272/2008 (CLP) | classification according to Directive 67/548/EEC |
|--------------------------|---------|-----------|----------------------|----------------------------------------------------------------|--------------------------------------------------|
| penthrite                | 78-11-5 | 201-084-3 | 0 – 7.8              | Expl. H 201                                                    | E; R3                                            |
| calcium silicide (ground | -       | -         | 0 – 10%              |                                                                | R 10<br>Xn;<br>R20                               |

**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)                                                                                            | classification according to Directive 67/548/EEC                                        |
|--------------------|-----------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| nitroglycerine     | 55-63-0   | 200-240-8 | 0-42              | Ox. Sol. 3; H272<br>Repr. 1A; H360 - Df<br>Acute Tox. 4; H332<br>Acute Tox. 4; H302<br>STOT RE 2; H373<br>Aquatic Acute 1; H400<br>Aquatic Chronic1; H410 | E; R3<br>T+; R26/27/28<br>Xn; R33<br>N; R51/53                                          |
| nitrocellulose     | 9004-70-0 | 215-174-5 | remaining portion | Expl. 1.1; H201                                                                                                                                           | E; R11                                                                                  |
| diphenylamine      | 122-39-4  | 204-539-4 | 0-1.50            | Acute Tox. 3.<br>H301+H311+H331<br>STOT RE 2; H373<br>Aquatic Chronic1; H410                                                                              | T; R23/24/25-33<br>N; R50-53                                                            |
| dinitrotoluene     | 121-14-2  | 204-450-0 | 0 - 16            | Carc.1B; H350<br>Muta.2; H341<br>Repr. 2; H361 - Df<br>Acute Tox. 3.<br>H301,H311,H331<br>STOT RE 2; H373<br>Aquatic Chronic 1; H410                      | Carc. 2, R45<br>Muta. 3, R68<br>Repr. 3; R62<br>T; R23/24,25<br>Xn; R48/22<br>N; R50-53 |
| centralite I       | 85-98-3   | 201-645-2 | 0 - 8             | Acute Tox. 4; H302<br>Aquatic Chronic 3; H412                                                                                                             | Xn; R22<br>N; R 52/53                                                                   |
| ethyl acetate      | 141-78-6  | 205-500-4 |                   | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>STOT SE 3; H336                                                                                               | F; R11<br>Xi; R36<br>R 66-67                                                            |
| dibutyl phthalate  | 84-74-2   | 201-557-4 | 0 - 9             | Repr.1B; H360 - Df<br>Aquatic Acute 1; H400                                                                                                               | Repr. 2; R61<br>Repr. 3; R62<br>N; R50                                                  |

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

**3.3 Other information**

Other substances contained in the mixture are not hazardous or are under the limit used for assessment according to Directive 1999/45/EC.

## **4. First aid measures**

First aid may be necessary when substances are released from cartridges, e.g. during disassembly.

### **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, CO<sub>2</sub> or just soil.

### **5.2 Special hazards arising from the substance:**

Toxic substances may be released during combustion - nitrogen oxides and carbon oxides and lead and barium compounds.

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 primers or priming compositions with open fire, electric sparks and chemically aggressive substances.

**6.2 Environmental precautions**

Avoid contamination of soil and water with priming compositions. Do not throw primers 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. Use tools made of non-sparking materials.

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 primers must be stored so that safety requirements of applicable regulations are met.

## 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.

### 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**

The product is stable under normal conditions of use (pressure, temperature).

**10.1 Conditions to avoid**

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

**10.2 Incompatible materials**

Chemically aggressive acidic or alkaline substances and strong oxidizing agents.

**10.3 Hazardous decomposition products**

Irritating gases and aerosols – CO, CO<sub>2</sub>, NO<sub>x</sub>, 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**

Cartridges and waste parts are considered dangerous. 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 packagings are not considered dangerous and can be recycled. Initiated cases can be recycled.

Cases 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,<br>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,<br>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,<br>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**

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

**16. Other information****H and R statements used in Section 3.1:****Classification according to Directive 67/548/EEC (DSD)**

|            |                                                                                                 |
|------------|-------------------------------------------------------------------------------------------------|
| R3         | Extreme risk of explosion by shock, friction, fire or other sources of ignition                 |
| R 8        | Contact with combustible material may cause fire                                                |
| R 10       | Flammable                                                                                       |
| R11        | Highly flammable                                                                                |
| R 20       | Harmful by inhalation                                                                           |
| R 15/29    | Contact with water liberates toxic, extremely flammable gases                                   |
| R 20/22    | Harmful by inhalation and if swallowed                                                          |
| R 22       | Harmful if swallowed                                                                            |
| R 23/24/25 | Toxic by inhalation, in contact with skin and if swallowed                                      |
| R 26/27/28 | Very toxic by inhalation, in contact with skin and if swallowed                                 |
| R 33       | Danger of cumulative effects                                                                    |
| R 36       | Irritating to eyes                                                                              |
| R41        | Risk of serious damage to eyes                                                                  |
| R 50/53    | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R 51/53    | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment      |

|         |                                                                                              |
|---------|----------------------------------------------------------------------------------------------|
| R 52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R 61    | May cause harm to the unborn child                                                           |
| R 62    | Possible risk of impaired fertility                                                          |
| R 66    | Repeated exposure may cause skin dryness or cracking                                         |
| R 67    | Vapours may cause drowsiness and dizziness                                                   |

**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.**