

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date 22.05.2015

Revision: 22.05.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Detonators, Electric (Class 1.4B)
- **Article number:** 1076
- **Other product identifiers:**
ELECTRIC SUPER™ COAL
ELECTRIC SUPER™ LP
ELECTRIC SUPER™ SP
ELECTRIC SUPER™ STARTER
ELECTRIC INSTANT
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Explosive product.
Commercial blasting applications
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800
Fax: 801-321-6703
E-Mail: dnna.hse@am.dynonobel.com
- **1.4 Emergency telephone number:**
CHEMTREC
1-800-424-9300 (US/Canada)
+01 703-527-3887 (International)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Classifications listed also are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).



exploding bomb

Expl. 1.4 H204 Fire or projection hazard.

-
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
R5: Heating may cause an explosion.
 - **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

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- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

- **Additional information:**

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

0 percent of the mixture consists of component(s) of unknown toxicity

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS01

- **Signal word** Warning

- **Hazard-determining components of labelling:**

pentaerythritol tetranitrate (PETN)

diazodinitro phenol (DDNP)

Nitrocellulose, colloided, granular

lead diazide

- **Hazard statements**

H204 Fire 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.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P373 DO NOT fight fire when fire reaches explosives.

P370+P380 In case of fire: Evacuate area.

P372 Explosion risk in case of fire.

P401 Store in accordance with local/regional/national/international regulations.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

EUH201 Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.

- **Hazard description:**

- **WHMIS-symbols:**

F - Dangerously reactive material

Explosive products are not classified under WHMIS.

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- **NFPA ratings (scale 0 - 4)** Not available.
- **HMIS-ratings (scale 0 - 4)**
Warning: Contains lead salt(s). Long-term health hazard.
Not available

- **HMIS Long Term Health Hazard Substances**

| | |
|------------|-----------------------|
| 13424-46-9 | lead diazide |
| 7758-97-6 | lead chromate |
| 13463-67-7 | titanium dioxide |
| 7778-74-7 | potassium perchlorate |

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

| | |
|----------------------------|---|
| CAS: 78-11-5 | pentaerythritol tetranitrate (PETN) |
| EINECS: 201-084-3 |  E R3 |
| Index number: 603-035-00-5 |  Unst. Expl., H200 |

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| | |
|--|--|
| CAS: 4682-03-5 | <p>diazodinitro phenol (DDNP)</p> <p> Xi R36/38; Xi R43; E R3</p> <p> Unst. Expl., H200</p> <p> Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317</p> |
| CAS: 9004-70-0 EC number: 603-037-0 | <p>Nitrocellulose, colloided, granular</p> <p> E R3</p> <p> Expl. 1.1, H201</p> |
| CAS: 13424-46-9 EINECS: 236-542-1 Index number: 082-003-00-7 | <p>lead diazide</p> <p> T Repr. Cat. 1, 3 R61; Xn R62-20/22; E R3; N R50/53 R33</p> <p> Unst. Expl., H200</p> <p> Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373</p> <p> Aquatic Acute 1, H400; Aquatic Chronic 1, H410</p> <p> Acute Tox. 4, H302; Acute Tox. 4, H332</p> |
| CAS: 7440-33-7 EINECS: 231-143-9 | <p>tungsten</p> <p>substance with a Community workplace exposure limit</p> |
| CAS: 10294-40-3 EINECS: 233-660-5 Index number: 056-002-00-7 | <p>barium chromate</p> <p> Xn R20/22</p> <p> Carc. 1A, H350</p> <p> Acute Tox. 4, H302; Acute Tox. 4, H332</p> |
| CAS: 7440-36-0 EINECS: 231-146-5 | <p>antimony</p> <p>substance with a Community workplace exposure limit</p> |
| CAS: 7440-21-3 EINECS: 231-130-8 | <p>silicon</p> <p> F R11</p> <p> Flam. Sol. 2, H228</p> |
| CAS: 1314-41-6 EINECS: 215-235-6 Index number: 082-001-00-6 | <p>orange lead</p> <p> T Repr. Cat. 1, 3 R61; Xn R62-20/22; N R50/53 R33</p> <p> Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373</p> <p> Aquatic Acute 1, H400; Aquatic Chronic 1, H410</p> <p> Acute Tox. 4, H302; Acute Tox. 4, H332</p> |
| CAS: 7439-92-1 EINECS: 231-100-4 | <p>lead</p> <p> T Repr. Cat. 1 R60-61-48/23/25; N R50/53</p> <p> Repr. 1A, H360FD; STOT RE 1, H372</p> <p> Aquatic Acute 1, H400; Aquatic Chronic 1, H410</p> |
| CAS: 7758-97-6 EINECS: 231-846-0 Index number: 082-004-00-2 | <p>lead chromate</p> <p> T Carc. Cat. 2, Repr. Cat. 1, 3 R45-61; Xn R62; N R50/53 R33</p> <p> Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373</p> <p> Aquatic Acute 1, H400; Aquatic Chronic 1, H410</p> |

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| | |
|---|---|
| CAS: 7782-49-2 EINECS: 231-957-4 Index number: 034-001-00-2 | selenium  T R23/25 R33-53  Acute Tox. 3, H301; Acute Tox. 3, H331  STOT RE 2, H373 Aquatic Chronic 4, H413 |
| CAS: 13463-67-7 EINECS: 236-675-5 | titanium dioxide substance with a Community workplace exposure limit |
| CAS: 7727-43-7 EINECS: 231-784-4 | barium sulphate, natural substance with a Community workplace exposure limit |
| CAS: 7440-42-8 EINECS: 231-151-2 | boron |
| CAS: 7778-74-7 EINECS: 231-912-9 Index number: 017-008-00-5 | potassium perchlorate  Xn R22;  O R9  Ox. Sol. 1, H271  Acute Tox. 4, H302 |

· SVHC

| | |
|------------|---------------|
| 13424-46-9 | lead diazide |
| 7758-97-6 | lead chromate |
| 1314-41-6 | orange lead |

· Additional information:

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.
For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:**
Unlikely route of exposure.
Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Generally the product does not irritate the skin.
Wash with soap and water.
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:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** Blast injury if mishandled.
- **Hazards** Danger of blast or crush-type injuries.

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· **4.3 Indication of any immediate medical attention and special treatment needed**

Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** DO NOT fight fire when fire reaches explosives.

· **For safety reasons unsuitable extinguishing agents:** None.

· **5.2 Special hazards arising from the substance or mixture**

DO NOT ATTEMPT TO FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions. Can explode or detonate under fire conditions. Burning material may produce toxic vapors. It is recommended that users of explosives material be familiar with the Institute of Makers of Explosives Safety Library publications.

Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.

· **5.3 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.

Flammability Classification: (defined by 29 CFR 1910.1200) Explosive. Can explode under fire conditions.

Individual devices will randomly explode. Will not mass explode if multiple devices are involved. Burning material may produce toxic and irritating vapors. In unusual cases, shrapnel may be thrown from exploding devices under containment. See 2008 Emergency response Guidebook for further information.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Wear protective clothing.

Protect from heat.

Evacuate area.

Isolate area and prevent access.

· **6.2 Environmental precautions:** No special measures required.

· **6.3 Methods and material for containment and cleaning up:**

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

Dispose unusable material as waste according to item 13.

· **6.4 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.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle with care. Avoid jolting, friction and impact.

Use only in well ventilated areas.

Do not subject to grinding/shock/friction.

Information about fire - and explosion protection:

Protect from heat.

Emergency cooling must be available in case of nearby fire.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store in a cool location.

Avoid storage near extreme heat, ignition sources or open flame.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Keep away from heat.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

13424-46-9 lead diazide

| | |
|-------------|--|
| PEL (USA) | Long-term value: 0,05 mg/m ³ as Pb; See 29 CFR 1910,1025 |
| REL (USA) | Long-term value: 0,05* mg/m ³ as Pb;*8-hr TWA; See Pocket Guide App. C |
| TLV (USA) | Long-term value: 0,05 mg/m ³ as Pb; BEI |
| EL (Canada) | Long-term value: 0,05 mg/m ³ as Pb; IARC 2A, R |

10294-40-3 barium chromate

| | |
|-----------|--|
| PEL (USA) | Long-term value: 0,005* mg/m ³ Ceiling limit: 0,1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910,1026 |
| REL (USA) | Long-term value: 0,0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C |
| TLV (USA) | Long-term value: 0,01 mg/m ³ as Cr |

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| | |
|-------------|---|
| EL (Canada) | Long-term value: 0,01 mg/m ³ as Cr; ACGIH A1 IARC 1 |
|-------------|---|

7440-36-0 antimony

| | |
|-----------|---|
| PEL (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-----------|---|
| REL (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-----------|---|
| TLV (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-------------|--|
| EL (Canada) | Long-term value: 0,5 mg/m ³ |
|-------------|--|

| | |
|-------------|--|
| EV (Canada) | Long-term value: 0,5 mg/m ³ |
|-------------|--|

7758-97-6 lead chromate

| | |
|------------|---|
| IOELV (EU) | Long-term value: 2 mg/m ³ as Cr |
|------------|---|

| | |
|-----------|--|
| PEL (USA) | Long-term value: 0,005* mg/m ³ Ceiling limit: 0,1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910,1026 |
|-----------|--|

| | |
|-----------|--|
| REL (USA) | Long-term value: 0,0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C |
|-----------|--|

| | |
|-----------|---|
| TLV (USA) | Long-term value: 0,05* 0,012** mg/m ³ *as Pb; BEI ; **as Cr |
|-----------|---|

| | |
|-------------|--|
| EL (Canada) | Long-term value: 0,05* 0,012** mg/m ³ ACIGH A2, IARC 2A; R; *as Pb;**as Cr |
|-------------|--|

| | |
|-------------|---|
| EV (Canada) | Long-term value: 0,012* 0,05** mg/m ³ *as Cr, **as Pb |
|-------------|---|

7440-33-7 tungsten

| | |
|-----------|--------------------------------|
| PEL (USA) | and insoluble compounds, as We |
|-----------|--------------------------------|

| | |
|-----------|--|
| REL (USA) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W |
|-----------|--|

| | |
|-----------|--|
| TLV (USA) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W |
|-----------|--|

| | |
|-------------|--|
| EL (Canada) | Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W |
|-------------|--|

| | |
|-------------|---|
| EV (Canada) | Short-term value: 10* 3** mg/m ³ Long-term value: 5* 1** mg/m ³ (as tungsten; compds.: *water-insol.; **water-sol.) |
|-------------|---|

7440-21-3 silicon

| | |
|-----------|---|
| PEL (USA) | Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction |
|-----------|---|

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| | |
|---|---|
| REL (USA) | Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction |
| TLV (USA) | TLV withdrawn |
| EL (Canada) | Long-term value: 10* 3** mg/m ³ *total dust; **respirable fraction |
| EV (Canada) | Long-term value: 10 mg/m ³ total dust |
| 1314-41-6 orange lead | |
| PEL (USA) | Long-term value: 0,05 mg/m ³ as Pb; See 29 CFR 1910,1025 |
| REL (USA) | Long-term value: 0,05* mg/m ³ as Pb; *8-hr TWA; See Pocket Guide App. C |
| TLV (USA) | Long-term value: 0,05 mg/m ³ as Pb; BEI |
| EL (Canada) | Long-term value: 0,05 mg/m ³ as Pb; IARC 2A, R |
| EV (Canada) | Long-term value: 0,05 mg/m ³ as Pb, Skin (organic compounds) |
| 7782-49-2 selenium | |
| PEL (USA) | Long-term value: 0,2 mg/m ³ as Se |
| REL (USA) | Long-term value: 0,2 mg/m ³ as Se |
| TLV (USA) | Long-term value: 0,2 mg/m ³ as Se |
| EL (Canada) | Long-term value: 0,1 mg/m ³ |
| EV (Canada) | Long-term value: 0,2 mg/m ³ |
| 13463-67-7 titanium dioxide | |
| PEL (USA) | Long-term value: 15* mg/m ³ *total dust |
| REL (USA) | See Pocket Guide App. A |
| TLV (USA) | Long-term value: 10 mg/m ³ withdrawn from NIC |
| EL (Canada) | Long-term value: 10* 3** mg/m ³ *total dust; **respirable fraction; IARC 2B |
| EV (Canada) | Long-term value: 10 mg/m ³ total dust |
| 7727-43-7 barium sulphate, natural | |
| PEL (USA) | Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction |

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| | |
|-------------|--|
| REL (USA) | Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction |
| TLV (USA) | Long-term value: 5* mg/m ³ *inhalable fraction; E |
| EL (Canada) | Long-term value: 10* 3** mg/m ³ *total dust, **respirable fraction |
| EV (Canada) | Long-term value: 10 mg/m ³ total dust |

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.

Ingredients with biological limit values:
13424-46-9 lead diazide

| | |
|-----------|--|
| BEI (USA) | 30 µg/100 ml Medium: blood Time: not critical Parameter: Lead |
|-----------|--|

10294-40-3 barium chromate

| | |
|-----------|---|
| BEI (USA) | 25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume) |
| | 10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (fume) |

7758-97-6 lead chromate

| | |
|-----------|---|
| BEI (USA) | 30 µg/100 ml Medium: blood Time: not critical Parameter: Lead |
| | 10 µg/100 ml Medium: blood Time: not critical Parameter: Lead (women of child bearing potential) |

1314-41-6 orange lead

| | |
|-----------|--|
| BEI (USA) | 30 µg/100 ml Medium: blood Time: not critical Parameter: Lead |
|-----------|--|

- **Additional information:** The lists valid during the making were used as basis.

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- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

- **Respiratory protection:**

Not required under normal conditions of use.

Respiratory protection may be required after product use.

- **Protection of hands:**

Wear gloves for the protection against mechanical hazards according to NIOSH or EN 388.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses

Face protection

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment**

No further relevant information available.

- **Risk management measures**

Organizational measures should be in place for all activities involving this product.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:

Solid material

Colour:

According to product specification

- **Odour:**

Odourless

- **Odour threshold:**

Not determined.

- **pH-value:**

Not applicable.

- **Change in condition**

Melting point/Melting range:

Not Determined.

Boiling point/Boiling range:

Undetermined.

- **Flash point:**

Not applicable.

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- **Flammability (solid, gaseous):** Fire or projection hazard.
- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** Heating may cause an explosion.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapour pressure:** Not applicable.
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Vapour density:** Not applicable.
- **Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with water:** Variable, dependent upon product composition and packaging.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **9.2 Other information:** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **10.3 Possibility of hazardous reactions**
Danger of explosion.
Toxic fumes may be released if heated above the decomposition point.
- **10.4 Conditions to avoid:** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Hydrocarbons
Leadoxide vapour
Nitrogen oxides
Chlorine compounds
Danger of forming toxic pyrolysis products.

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Toxic metal oxide smoke

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

7758-97-6 lead chromate

| | | |
|------|------|---------------------|
| Oral | LD50 | 12000 mg/kg (mouse) |
|------|------|---------------------|

7782-49-2 selenium

| | | |
|------|------|------------------|
| Oral | LD50 | 6700 mg/kg (rat) |
|------|------|------------------|

Primary irritant effect:

on the skin:

Not a skin irritant in unused form. Vapors/particles from used product are possibly irritating to skin.

on the eye:

Not an eye irritant in unused form. Vapors/particles from used product are possibly irritating to eyes.

Sensitisation: No sensitising effects known.

Subacute to chronic toxicity: No further relevant information available.

Acute effects (acute toxicity, irritation and corrosivity): Danger of blast or crush-type injuries.

Repeated dose toxicity: No further relevant information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Toxic for aquatic organisms

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential May be accumulated in organism

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information:

General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary

Very toxic for aquatic organisms

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Damaged materials pose a danger to anyone in the immediate area; consult experts for disposal of damaged products.

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 packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· DOT, ADR, IMDG, IATA UN0255

· **14.2 UN proper shipping name**

· DOT, IMDG, IATA DETONATORS, ELECTRIC
· ADR 0255 DETONATORS, ELECTRIC

· **14.3 Transport hazard class(es)**

· DOT



· Class 1.4

· Label 1.4

· ADR, IMDG, IATA



· Class 1.4

· Label 1.4B

· **14.4 Packing group**

· DOT, ADR, IMDG, IATA II

· **14.5 Environmental hazards:**

· Marine pollutant: No

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- **Special marking (IATA):** Prohibited from Transport in Passenger Aircraft.



Cargo Aircraft Only.

- **14.6 Special precautions for user:** Not applicable.
- **EMS Number:** F-B,S-X
- **Segregation groups:** Lead and its compounds
- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **Transport/Additional information:**

- **ADR**
- **Limited quantities (LQ):** 0
- **Excepted quantities (EQ):** Code: E0
Not permitted as Excepted Quantity
- **Tunnel restriction code:** (1)

- **IMDG**
- **Limited quantities (LQ):** 0
- **Excepted quantities (EQ):** Code: E0
Not permitted as Excepted Quantity
- **UN "Model Regulation":** UN0255, DETONATORS, ELECTRIC, 1.4B, II

SECTION 15: Regulatory information

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

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

- **Section 313 (Specific toxic chemical listings):**

| | |
|------------|--------------------------|
| 13424-46-9 | lead diazide |
| 10294-40-3 | barium chromate |
| 7440-36-0 | antimony |
| 7758-97-6 | lead chromate |
| 1314-41-6 | orange lead |
| 7782-49-2 | selenium |
| 7727-43-7 | barium sulphate, natural |

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65 (California):**

- **Chemicals known to cause cancer:**

13424-46-9 | lead diazide

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| | |
|------------|------------------|
| 10294-40-3 | barium chromate |
| 7758-97-6 | lead chromate |
| 1314-41-6 | orange lead |
| 13463-67-7 | titanium dioxide |

· **Chemicals known to cause reproductive toxicity for females:**

| | |
|------------|-----------------|
| 10294-40-3 | barium chromate |
| 7758-97-6 | lead chromate |

· **Chemicals known to cause reproductive toxicity for males:**

| | |
|------------|-----------------|
| 10294-40-3 | barium chromate |
| 7758-97-6 | lead chromate |

· **Chemicals known to cause developmental toxicity:**

| | |
|------------|-----------------|
| 13424-46-9 | lead diazide |
| 10294-40-3 | barium chromate |
| 7758-97-6 | lead chromate |

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

| | | |
|------------|--------------------------|--------------------------------------|
| 13424-46-9 | lead diazide | B2 |
| 10294-40-3 | barium chromate | A(inh), D(oral), K/L(inh), CBD(oral) |
| 7758-97-6 | lead chromate | K |
| 1314-41-6 | orange lead | B2 |
| 7782-49-2 | selenium | D |
| 7727-43-7 | barium sulphate, natural | D, CBD(inh), NL(oral) |
| 7440-42-8 | boron | I (oral) |
| 7778-74-7 | potassium perchlorate | NL |

· **IARC (International Agency for Research on Cancer)**

| | | |
|------------|------------------|----|
| 13424-46-9 | lead diazide | 2A |
| 10294-40-3 | barium chromate | 1 |
| 7758-97-6 | lead chromate | 1 |
| 1314-41-6 | orange lead | 2A |
| 7782-49-2 | selenium | 3 |
| 13463-67-7 | titanium dioxide | 2B |

· **TLV (Threshold Limit Value established by ACGIH)**

| | | |
|------------|------------------|----|
| 13424-46-9 | lead diazide | A3 |
| 10294-40-3 | barium chromate | A1 |
| 7758-97-6 | lead chromate | A2 |
| 1314-41-6 | orange lead | A3 |
| 13463-67-7 | titanium dioxide | A4 |

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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

| | |
|------------|-----------------|
| 10294-40-3 | barium chromate |
|------------|-----------------|

| | |
|-----------|---------------|
| 7758-97-6 | lead chromate |
|-----------|---------------|

| | |
|------------|------------------|
| 13463-67-7 | titanium dioxide |
|------------|------------------|

- **Canada**

- **Canadian Domestic Substances List (DSL)**

Some components are listed on the NDSL.

All ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 0.1%)**

| | |
|------------|-----------------|
| 10294-40-3 | barium chromate |
|------------|-----------------|

| | |
|-----------|---------------|
| 7758-97-6 | lead chromate |
|-----------|---------------|

| | |
|-----------|----------|
| 7782-49-2 | selenium |
|-----------|----------|

- **Canadian Ingredient Disclosure list (limit 1%)**

| | |
|-----------|----------|
| 7440-36-0 | antimony |
|-----------|----------|

| | |
|-----------|----------|
| 7440-33-7 | tungsten |
|-----------|----------|

- **Other regulations, limitations and prohibitive regulations**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

- **Substances of very high concern (SVHC) according to REACH, Article 57**

| | |
|------------|--------------|
| 13424-46-9 | lead diazide |
|------------|--------------|

| | |
|-----------|---------------|
| 7758-97-6 | lead chromate |
|-----------|---------------|

| | |
|-----------|-------------|
| 1314-41-6 | orange lead |
|-----------|-------------|

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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- **Relevant phrases**

H200 Unstable explosives.

H201 Explosive; mass explosion hazard.

H228 Flammable solid.

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- H271 May cause fire or explosion; strong oxidiser.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
 H332 Harmful if inhaled.
 H350 May cause cancer.
 H360Df May damage the unborn child. Suspected of damaging fertility.
 H360FD May damage fertility. May damage the unborn child.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H413 May cause long lasting harmful effects to aquatic life.
- R11 Highly flammable.
 R20/22 Harmful by inhalation and if swallowed.
 R22 Harmful if swallowed.
 R23/25 Toxic by inhalation and if swallowed.
 R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
 R33 Danger of cumulative effects.
 R36/38 Irritating to eyes and skin.
 R43 May cause sensitisation by skin contact.
 R45 May cause cancer.
 R48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R53 May cause long-term adverse effects in the aquatic environment.
 R60 May impair fertility.
 R61 May cause harm to the unborn child.
 R62 Possible risk of impaired fertility.
 R9 Explosive when mixed with combustible material.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent
Expl. 1.1: Explosives, Division 1.1
Expl. 1.4: Explosives, Division 1.4
Unst. Expl.: Explosives, Unstable explosives
Flam. Sol. 2: Flammable solids, Hazard Category 2
Ox. Sol. 1: Oxidising Solids, Hazard Category 1
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 1A: Carcinogenicity, Hazard Category 1A
Carc. 1B: Carcinogenicity, Hazard Category 1B
Repr. 1A: Reproductive toxicity, Hazard Category 1A
Repr. 1A: Reproductive toxicity, Hazard Category 1A
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

Sources

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