SAFETY DATA SHEET

# Exel Neo (1.4S)

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

### 1.1. Product identifier

**Trade name**

Exel Neo (1.4S)

**Other names / Synonyms**

Exel MS, Exel LP, Exel Connectadet SL, Exel Starter SL

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

**Relevant identified uses of the substance or mixture**

Explosives for civil use, mining.
Restricted to professional users.

**Use descriptors (UK REACH)**

| Sectors of use | Description |
|---|---|
| SU 2a | Mining, (without offshore industries) |

| Product category | Description |
|---|---|
| PC 11 | Explosives |

**Uses advised against**

No special

### 1.3. Details of the supplier of the safety data sheet

**Company and address**

**Orica UK Limited**
Ground Floor - West Wing, 101 Dalton Avenue, Birchwood Park, Birchwood
WA3 6YF Warrington
United Kingdom
+44 1257 256100

**Contact person**

sds.emea@orica.com

**E-mail**

sds.emea@orica.com

**Revision**

11/09/2023

**SDS Version**

1.0

### 1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).
See section 4 “First aid measures”.

## SECTION 2: Hazards identification

Classified according to Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

### 2.1. Classification of the substance or mixture

Expl. 1.4; H204, Fire or projection hazard.
Acute Tox. 3; H301, Toxic if swallowed.
Skin Sens. 1; H317, May cause an allergic skin reaction.
Carc. 2; H351, Suspected of causing cancer.
STOT SE 1; H370, Causes damage to organs.
STOT RE 2; H373, May cause damage to organs through prolonged or repeated exposure.

Labelling is in accordance with the labelling exemptions for products intended to be marketed with a view to obtaining an explosive or pyrotechnic effect.

### 2.2. Label elements

#### Hazard pictogram(s)

#### Signal word

Warning

#### Hazard statement(s)

Fire or projection hazard. (H204)

#### Precautionary statement(s)

##### General

-

##### Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
Keep only in original packaging. (P234)
Do not subject to grinding/shock/friction. (P250)
Wear protective gloves/protective clothing/eye protection. (P280)

##### Response

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. (P370+P380+P375)

##### Storage

-

##### Disposal

-

#### Hazardous substances

1,3,5-trinitro-1,3,5-triazinane
Strontium molybdate
Nickel powder [particle diameter < 1 mm]
Vanadium pentoxide

#### Additional labelling

Not applicable

### 2.3. Other hazards

#### Additional warnings

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable. This product is a mixture.

### 3.2. Mixtures

| Product/substance | Identifiers | % w/w | Classification | Note |
|---|---|---|---|---|
| Pentaerithrityl tetranitrate | CAS No.: 78-11-5<br>EC No.: 201-084-3<br>UK-REACH:<br>Index No.: 603-035-00-5 | 20-40% | Unst. Expl. H200 | |
| 1,3,5-trinitro-1,3,5-triazinane | CAS No.: 121-82-4<br>EC No.: 204-500-1<br>UK-REACH:<br>Index No.: | 0-30% | Expl. 1.1, H201<br>Acute Tox. 3, H301<br>STOT SE 1, H370<br>STOT RE 2, H373 | |
| Strontium molybdate | CAS No.: 13470-04-7<br>EC No.: 236-730-3<br>UK-REACH:<br>Index No.: | 0-5% | Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Acute Tox. 3, H331<br>STOT SE 3, H335 | |
| Nickel powder [particle diameter < 1 mm] | CAS No.: 7440-02-0<br>EC No.: 231-111-4<br>UK-REACH: | 0-3% | Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT RE 1, H372 | [1], [3] |

| | | | |
|---|---|---|---|
| | Index No.: 028-002-01-4 | | Aquatic Chronic 3, H412 |
| Vanadium pentoxide | CAS No.: 1314-62-1<br>EC No.: 215-239-8<br>UK-REACH:<br>Index No.: 023-001-00-8 | 0-0.2% | Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>STOT SE 3, H335<br>Muta. 2, H341<br>Repr. 2, H361d<br>STOT RE 1, H372<br>Aquatic Chronic 2, H411 |

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other information

[1] European occupational exposure limit.
[3] According to UK REACH, Annex XVII, the substance is subject to restrictions.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

#### Skin contact

IF ON SKIN: Wash with plenty of water and soap.
Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.
If skin irritation occurs: Get medical advice/attention.

#### Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

#### Ingestion

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit from returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### Burns

Rinse with water until pain stops then continue to rinse for 30 minutes.

### 4.2. Most important symptoms and effects, both acute and delayed

Headache, Methaemoglobinaemia (Pentaerithrityl tetranitrate)
Headache, Methaemoglobinaemia (Nitrogen monoxide)
Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.
Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

### 4.3. Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:
Get immediate medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.

### Information to medics

Bring this safety data sheet or the label from this product.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are

exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Nitrogen oxides ($NO_x$)
Carbon oxides (CO / CO2).

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Restrict the number of action force members in the hazard area. Do not inhale explosion and combustion gases. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Measures in case of adjacent fire (Fire has not yet reached product): Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.

Measures in case of product fire (Fire has just reached the product or is about to reach it): Evacuate area. Fight fire remotely due to the risk of explosion.
Hazchem Code: None

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid contact with the substance. Wear suitable protective equipment before handling. Follow emergency procedures. Evacuate the danger area and notify your supervisor. Ask for assistance from a competent person.
For emergency responders: Close off the hazard area. Ask for assistance from a competent person.
Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.
Contaminated areas may be slippery.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

### 6.3. Methods and material for containment and cleaning up

Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.
Minor spills are collected with a cloth. Collection and disposal of the material shall be done with minimum creation of dust. Sweep and collect. Shall be contained in suitable and tightly closed disposal containers.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Only to be handled by authorised persons. The explosives must be under supervision and kept away from unauthorised persons. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding, shock, friction. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed outside of the workplace. Wash hands before breaks and after work.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in original packaging if possible. Explosives and explosive articles should be stored in accordance with the licence issued by the relevant national authority. Store under cool conditions. Store under dry conditions. Stable under normal storage conditions. Maximum storage quantity should be agreed with national authorities. Store in a well-ventilated place. Store in a closed container.

#### Recommended storage material

Always store in containers of the same material as the original container.

#### Storage temperature

Best stored between 0°C and 50°C.

#### Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

### 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Vanadium pentoxide
Long term exposure limit (8 hours) (mg/m³): 0,05

Carbon dioxide
Long term exposure limit (8 hours) (ppm): 5000
Long term exposure limit (8 hours) (mg/m³): 9150
Short term exposure limit (15 minutes) (ppm): 15000
Short term exposure limit (15 minutes) (mg/m³): 27400

Carbon monoxide
Long term exposure limit (8 hours) (ppm): 20 / 30* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/2023)
Long term exposure limit (8 hours) (mg/m³): 23 / 35* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/2023)
Short term exposure limit (15 minutes) (ppm): 100 / 200* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/2023)
Short term exposure limit (15 minutes) (mg/m³): 117 / 232* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/2023)
Annotations:
BMVG = Biological Monitoring Guidance Value exists

Nitrogen dioxide
Long term exposure limit (8 hours) (ppm): 0,5 (Does not apply to underground mining and tunnelling industries until 21/8/2023)
Long term exposure limit (8 hours) (mg/m³): 0,96 (Does not apply to underground mining and tunnelling industries until 21/8/2023)
Short term exposure limit (15 minutes) (ppm): 1 (Does not apply to underground mining and tunnelling industries until 21/8/2023)
Short term exposure limit (15 minutes) (mg/m³): 1,91 (Does not apply to underground mining and tunnelling industries until 21/8/2023)

Nitrogen monoxide
Long term exposure limit (8 hours) (ppm): 2 / 25* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/23)
Long term exposure limit (8 hours) (mg/m³): 2,5 / 30* (*Limit applicable to underground mining & tunnelling industries ONLY until 21/8/23)

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677 The Stationery Office 2002. EH40/2005 Workplace exposure limits (Fourth Edition 2020).

### DNEL

Nickel powder [particle diameter < 1 mm]

| Duration: | Route of exposure: | DNEL: |
|---|---|---|
| Long term – Local effects - Workers | Dermal | 0.035 mg/cm² |
| Long term – Systemic effects - Workers | Inhalation | 0.05 mg/m³ |

Pentaerithrityl tetranitrate

| Duration: | Route of exposure: | DNEL: |
|---|---|---|
| Long term – Systemic effects - Workers | Inhalation | 220.4 mg/m3 |

### PNEC

Nickel powder [particle diameter < 1 mm]

| Route of exposure: | Duration of Exposure: | PNEC: |
|---|---|---|
| Freshwater | | 0.0071 mg/l |
| Freshwater sediment | | 109 mg/kg dw |

| | |
|---|---|
| Marine water | 0.0086 mg/l |
| Marine water sediment | 109 mg/kg dw |
| Soil | 29.9 mg/kg dw |

Pentaerithrityl tetranitrate

| Route of exposure: | Duration of Exposure: | PNEC: |
|---|---|---|
| Freshwater | | 0.3 mg/l |

### 8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

#### General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

#### Exposure scenarios

There are no exposure scenarios implemented for this product.

#### Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

#### Appropriate technical measures

Do not recirculate outlet air that contain the substances.
Apply standard precautions during use of the product. Avoid inhalation of gas or dust.
Airborne gas and dust concentrations must be kept at a minimum and below current limit values (see above).
Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure emergency eyewash and showers are clearly marked.

#### Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

#### Measures to avoid environmental exposure

No specific requirements.

#### Individual protection measures, such as personal protective equipment

##### Generally

Use only UKCA marked protective equipment.

##### Respiratory Equipment

No specific requirements

##### Skin protection

| Recommended | Type/Category | Standards | |
|---|---|---|---|
| Dedicated work clothing should be worn. | - | - |  |

##### Hand protection

| Material | Glove thickness (mm) | Breakthrough time (min.) | Standards | |
|---|---|---|---|---|
| - | 0,7-0,8 | | EN420, EN388, EN407, EN12477, EN1149 |  |

##### Eye protection

| Type | Standards | |
|---|---|---|
| Safety glasses with side shields. | EN166 |  |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Solid

#### Colour

Testing not relevant or not possible due to the nature of the product.

Odour / Odour threshold
Testing not relevant or not possible due to the nature of the product.

pH
Testing not relevant or not possible due to the nature of the product.

Density (g/cm³)
Testing not relevant or not possible due to the nature of the product.

Kinematic viscosity
Does not apply to solids.

Particle characteristics
Testing not relevant or not possible due to the nature of the product.

Phase changes

Melting point/Freezing point (°C)
Testing not relevant or not possible due to the nature of the product.

Softening point/range (waxes and pastes) (°C)
Does not apply to solids.

Boiling point (°C)
Does not apply to solids.

Vapour pressure
Testing not relevant or not possible due to the nature of the product.

Relative vapour density
Does not apply to solids.

Decomposition temperature (°C)
Testing not relevant or not possible due to the nature of the product.

Data on fire and explosion hazards

Flash point (°C)
Does not apply to solids.

Flammability (°C)
Not applicable. Product is an explosive.

Auto-ignition temperature (°C)
Not applicable. Product is an explosive.

Lower and upper explosion limit (% v/v)
Does not apply to solids.

Solubility

Solubility in water
Testing not relevant or not possible due to the nature of the product.

n-octanol/water coefficient
Testing not relevant or not possible due to the nature of the product.

Solubility in fat (g/L)
Testing not relevant or not possible due to the nature of the product.

9.2. Other information

Oxidizing properties
Testing not relevant or not possible due to the nature of the product.

Other physical and chemical parameters
No data available.

## SECTION 10: Stability and reactivity

10.1. Reactivity
The product is an explosive.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions
Risk of explosion by shock, friction, fire or other sources of ignition.

10.4. Conditions to avoid
Heating may cause an explosion.

10.5. Incompatible materials
Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products
Nitrogen oxides ($NO_x$)

Carbon oxides (CO / CO2).

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### Acute toxicity

| | |
|---|---|
| Product/substance | Pentaerithrityl tetranitrate |
| Species: | Rat |
| Route of exposure: | Oral |
| Test: | LD50 |
| Result: | 2500 mg/kg · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Rat |
| Route of exposure: | Oral |
| Test: | LD50 |
| Result: | 71 mg/kg · |

| | |
|---|---|
| Product/substance | Nickel powder [particle diameter < 1 mm] |
| Species: | Rat |
| Route of exposure: | Oral |
| Test: | LD50 |
| Result: | >9000 mg/kg |

| | |
|---|---|
| Product/substance | Vanadium pentoxide |
| Species: | Rat |
| Route of exposure: | Inhalation |
| Test: | LC50 (4 hours) |
| Result: | 2.21 mg/L |

| | |
|---|---|
| Product/substance | Vanadium pentoxide |
| Species: | Rat |
| Route of exposure: | Dermal |
| Test: | LC50 |
| Result: | >2500 mg/L |

Toxic if swallowed.

#### Skin corrosion/irritation

Based on available data, the classification criteria are not met.

#### Serious eye damage/irritation

Based on available data, the classification criteria are not met.

#### Respiratory sensitisation

Based on available data, the classification criteria are not met.

#### Skin sensitisation

May cause an allergic skin reaction.

#### Germ cell mutagenicity

Based on available data, the classification criteria are not met.

#### Carcinogenicity

Suspected of causing cancer.

#### Reproductive toxicity

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Causes damage to organs.

#### STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

#### Long term effects

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.

#### Endocrine disrupting properties

Not applicable

### Other information

Nickel powder [particle diameter < 1 mm] has been classified by IARC as a group 2B carcinogen.
Vanadium pentoxide has been classified by IARC as a group 2B carcinogen.

## SECTION 12: Ecological information

### 12.1. Toxicity

| | |
|---|---|
| Product/substance | Pentaerithrityl tetranitrate |
| Species: | Fish |
| Duration: | 96 hours |
| Test: | LC50 |
| Result: | 926 mg/l · |

| | |
|---|---|
| Product/substance | Pentaerithrityl tetranitrate |
| Species: | Daphnia |
| Duration: | 48 hours |
| Test: | EC50 |
| Result: | 292 mg/l · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Fish |
| Duration: | 96 hours |
| Test: | LC50 |
| Result: | 11.1-15.0 mg/l · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Daphnia |
| Duration: | 48 hours |
| Test: | EC50 |
| Result: | >17 mg/l · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Fish |
| Duration: | 28 days |
| Test: | NOEC |
| Result: | 1.4 mg/l · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Algae |
| Duration: | No data available. |
| Test: | NOEC |
| Result: | 0.5 mg/l · |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Species: | Daphnia |
| Duration: | 7 days |
| Test: | NOEC |
| Result: | 3.64 mg/l · |

| | |
|---|---|
| Product/substance | Nickel powder [particle diameter < 1 mm] |
| Species: | Fish |
| Duration: | 96 hours |
| Test: | LC50 |
| Result: | 15.6 mg/L |

| | |
|---|---|
| Product/substance | Nickel powder [particle diameter < 1 mm] |
| Species: | Daphnia |
| Duration: | 48 hours |
| Test: | EC50 |
| Result: | 10.48 mg/L |

| | |
|---|---|
| Product/substance | Vanadium pentoxide |
| Species: | Fish |
| Duration: | 96 hours |
| Test: | LC50 |

| | |
|---|---|
| Result: | 5.2 mg/L |

| | |
|---|---|
| Product/substance | Vanadium pentoxide |
| Species: | Daphnia |
| Duration: | 48 hours |
| Test: | LC50 |
| Result: | 1.52 mg/L |

### 12.2. Persistence and degradability
No data available.

### 12.3. Bioaccumulative potential

| | |
|---|---|
| Product/substance | Pentaerithrityl tetranitrate |
| Test method: | |
| Potential bioaccumulation: | No |
| LogPow: | 2.3800 |
| BCF: | No data available. |
| Other information: | |

| | |
|---|---|
| Product/substance | 1,3,5-trinitro-1,3,5-triazinane |
| Test method: | |
| Potential bioaccumulation: | No |
| LogPow: | 0.8700 |
| BCF: | No data available. |
| Other information: | |

### 12.4. Mobility in soil
No data available.

### 12.5. Results of PBT and vPvB assessment
This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

### 12.6. Endocrine disrupting properties
Not applicable

### 12.7. Other adverse effects
No special

## SECTION 13: Disposal considerations

### Waste treatment methods
Product is covered by the regulations on hazardous waste.
HP 1 - Explosive
HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6 - Acute toxicity
HP 7 – Carcinogenic
Dispose of contents/container to an approved waste disposal plant.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

### EWC code
16 04 03* Other waste explosives

### Specific labelling

### Contaminated packing
Packaging containing residues of the product must be disposed of similarly to the product.

## SECTION 14: Transport information

| | 14.1 UN / ID | 14.2 UN proper shipping name | 14.3 Hazard class(es) | 14.4 PG* | 14.5 Env** | Other information: |
|---|---|---|---|---|---|---|
| ADR | UN0500 | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting | Transport hazard class: 1<br>Label: 1.4<br>Classification code: 1.4S<br>  | - | No | Limited quantities: 0<br>Tunnel restriction code: (E)<br>See below for additional information. |

| | 14.1 UN / ID | 14.2 UN proper shipping name | 14.3 Hazard class(es) | 14.4 PG* | 14.5 Env** | Other information: |
|---|---|---|---|---|---|---|
| IMDG | UN0500 | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting | Transport hazard class: 1<br>Label: 1.4<br>Classification code: 1.4S<br>  | - | No | Limited quantities: 0<br>EmS: F-B S-X<br>See below for additional information. |
| IATA | UN0500 | DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting | Transport hazard class: 1<br>Label: 1.4<br>Classification code: 1.4S<br>  | - | No | See below for additional information. |

* Packing group
** Environmental hazards

Additional information

ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.
IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.
IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.
This product is within scope of the regulations of transport of dangerous goods.
Hazchem Code: None

### 14.6. Special precautions for user

Not applicable

### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

## SECTION 15: Regulatory information

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

Restrictions for application

Restricted to professional users.
People under the age of 18 shall not be exposed to this product.
Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

Demands for specific education

No specific requirements.

SEVESO - Categories / dangerous substances

H3 - STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE, Qualifying quantity (lower-tier): 50 tonnes / (upper-tier): 200 tonnes
P1b - EXPLOSIVES, Qualifying quantity (lower-tier): 50 tonnes / (upper-tier): 200 tonnes

UK-REACH, Annex XVII

Nickel powder [particle diameter < 1 mm] is subject to restrictions, UK-REACH annex XVII (entry 27).

Additional information

Not applicable

Sources

The Management of Health and Safety at Work Regulations 1999.
The Health and Safety at Work etc. Act 1974 Regulations 2013.
Control of Major Accident Hazards (COMAH) Regulations 2015.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.
1993 Hazardous Substances Law
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

### 15.2. Chemical safety assessment

No

## SECTION 16: Other information

### Full text of H-phrases as mentioned in section 3

H200, Unstable explosives.
H201, Explosive; mass explosion hazard.
H301, Toxic if swallowed.
H302, Harmful if swallowed.
H311, Toxic in contact with skin.
H315, Causes skin irritation.
H317, May cause an allergic skin reaction.
H319, Causes serious eye irritation.
H331, Toxic if inhaled.
H332, Harmful if inhaled.
H335, May cause respiratory irritation.
H341, Suspected of causing genetic defects.
H351, Suspected of causing cancer.
H361d, Suspected of damaging the unborn child.
H370, Causes damage to organs.
H372, Causes damage to organs through prolonged or repeated exposure.
H373, May cause damage to organs through prolonged or repeated exposure.
H411, Toxic to aquatic life with long lasting effects.
H412, Harmful to aquatic life with long lasting effects.

### The full text of identified uses as mentioned in section 1

SU 2a = Mining, (without offshore industries)
PC 11 = Explosives

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

### Additional information

The classification of the mixture in regard to physical hazards has been based on experimental data.

### The safety data sheet is validated by

TL

### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.
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