



EOS MaragingSteel MS1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878 Issue date: 5/11/2023 Version: 8.1

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

1.1. Product identifier

Product form : Mixture
Trade name : EOS MaragingSteel MS1
Product code : 9011-0016
Type of product : Alloy, Powder
UFI : STJ9-VP2A-JC8T-6MM4

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

1.2.1. Relevant identified uses

Main use category : Industrial use
Use of the substance/mixture : Maraging Steel for DMLS processes in EOS M systems

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Electro Optical Systems Finland Oy
Lemminkäisenkatu 36
20520 Turku
FINLAND
T +358 (0) 20 765 9144/9147 - F +358 (0) 20 765 9141
MSDSInfo@eos.info - <https://www.eos.info/>

1.4. Emergency telephone number

Emergency number : +49 (0) 89 / 893 36 - 0 (8 am - 5 pm);
+49 (0) 89 / 893 36 - 151 (Mon-Thurs 9 am - 12 pm & 1 pm - 6 pm; Fri 1 pm - 4 pm (CET))

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Respiratory sensitisation, Category 1	H334
Skin sensitisation, Category 1	H317
Germ cell mutagenicity, Category 2	H341
Carcinogenicity, Category 1B	H350
Reproductive toxicity, Category 1B	H360F
Specific target organ toxicity – Repeated exposure, Category 1	H372
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

GHS09

Signal word (CLP) :

Danger

Contains :

Nickel, Cobalt

Hazard statements (CLP)

H317 - May cause an allergic skin reaction.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 - Suspected of causing genetic defects.

H350 - May cause cancer.

H360F - May damage fertility.

H372 - Causes damage to organs through prolonged or repeated exposure.

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P201 - Obtain special instructions before use.

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P273 - Avoid release to the environment.

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

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Iron	CAS-No.: 7439-89-6 EC-No.: 215-168-2; 231-096-4 REACH-No.: 01-2119462838-24	64.5 – 68.7	Not classified
Nickel	CAS-No.: 7440-02-0 EC-No.: 231-111-4 EC Index-No.: 028-002-00-7 REACH-No.: 01-2119438727-29	17.5 – 19	Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 3, H412

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Cobalt	CAS-No.: 7440-48-4 EC-No.: 231-158-0 EC Index-No.: 027-001-00-9 REACH-No.: 01-2119517392-44	8.5 – 9.5	Eye Irrit. 2, H319 Acute Tox. 4, H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Repr. 1B, H360F Aquatic Acute 1, H400 <i>M-factor: 10</i> Aquatic Chronic 1, H410 <i>M-factor: 1</i>
Molybdenum	CAS-No.: 7439-98-7 EC-No.: 231-107-2 REACH-No.: 01-2119472304-43	4.6 – 5.2	Not classified

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects	: Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Sand. Special powder for metal fires.
Unsuitable extinguishing media	: Carbon dioxide (CO2). Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Fine dust clouds may form flammable/explosive mixtures with air.
Explosion hazard	: Stable at ambient temperature and under normal conditions of use.
Hazardous decomposition products in case of fire	: Carbon oxides (CO and CO2). Molybdenum trioxide.

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5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Have fire-extinguishers in readiness before opening containers.
- Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove all sources of ignition. No open flames, no sparks, and no smoking.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.
- Measures in case of dust release : Avoid breathing dust, mist or spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle uncleaned empty containers as full ones. Keep away from sources of ignition - No smoking.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust, mist or spray. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Store in a closed container. Store in a dry place.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

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United Kingdom - Occupational Exposure Limits	
Local name	Molybdenum
WEL TWA (OEL TWA) [1]	10 mg/m ³ insoluble compounds (as Mo) 5 mg/m ³ soluble compounds (as Mo)
WEL STEL (OEL STEL)	20 mg/m ³ insoluble compounds (as Mo) 10 mg/m ³ soluble compounds (as Mo)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Nickel (7440-02-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Nickel metal
IOEL TWA	0.005 mg/m ³ (respirable fraction)
Remark	(Year of adoption 2011)
Regulatory reference	SCOEL Recommendations
EU - Biological Limit Value (BLV)	
Local name	Nickel and nickel compounds
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
United Kingdom - Occupational Exposure Limits	
Local name	Nickel
WEL TWA (OEL TWA) [1]	0.1 mg/m ³ and its inorganic compounds (except nickel tetracarbonyl): water-soluble nickel compounds (as Ni) 0.5 mg/m ³ and its inorganic compounds (except nickel tetracarbonyl): nickel and water insoluble nickel compounds (as Ni)
WEL STEL (OEL STEL)	1.5 mg/m ³ (calculated)
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity), Carc (Capable of causing cancer and/or heritable genetic damage (nickel oxides and sulphides)), Sen (Capable of causing occupational asthma (nickel sulphate))
WEL chemical category	Potential for cutaneous absorption
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Cobalt (7440-48-4)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.1 mg/m ³
WEL STEL (OEL STEL)	0.3 mg/m ³ (calculated)
Molybdenum (7439-98-7)	
United Kingdom - Occupational Exposure Limits	
Local name	Molybdenum
WEL TWA (OEL TWA) [1]	10 mg/m ³ insoluble compounds (as Mo) 5 mg/m ³ soluble compounds (as Mo)
WEL STEL (OEL STEL)	20 mg/m ³ insoluble compounds (as Mo) 10 mg/m ³ soluble compounds (as Mo)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

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8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

DNEL/DMEL (Workers) Nickel	
Acute - systemic effects, inhalation	680 mg/m ³ Nickel
Acute - local effects, inhalation	4 mg/m ³ Nickel
Long-term - local effects, dermal	0,035 mg/cm ² Nickel
Long-term - systemic effects, inhalation	0,05 mg/m ³ Nickel
Long-term - local effects, inhalation	0,05 mg/m ³ Nickel
DNEL/DMEL (Workers) Cobalt	
Long-term – systemic effects, inhalation	0.04 mg/m ³ Cobalt
DNEL/DMEL (Consumer)	
Long-term – local effects, inhalation	0.0063 mg/m ³ Cobalt
Long-term – systemic effects, oral	0.0095 mg/kg/day Cobalt
PNEC (Water)	
PNEC aqua (freshwater)	0.00051 mg/l Cobalt
PNEC aqua (marine water)	0.00236 mg/l Cobalt
PNEC (Sediment)	
PNEC sediment (freshwater)	9.5 mg/kg dwt Cobalt
PNEC sediment (marine water)	9.5 mg/kg dwt Cobalt
PNEC (Soil)	
PNEC soil	10.9 mg/kg dwt Cobalt
PNEC (Sewage treatment plant)	
PNEC sewage treatment plant	0.37 mg/l Cobalt

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Avoid raising powdered materials into airborne dust. Dust must be extracted directly at the point of origin.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Wear eye glasses with side protection according to EN 166.

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. Wear protective shoes. ESD according to EN 61340-4-3 or equivalent.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Butyl-rubber protective gloves > 120 min (EN 374).

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Other skin protection

Materials for protective clothing:

Wear suitable protective clothing

8.2.2.3. Respiratory protection

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Dust production: dust mask with filter type P3

8.2.2.4. Thermal hazards

Thermal hazard protection:

Wear personal protective equipment.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Prevent entry to sewers and public waters.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Grey
Appearance	: Powder
Odour	: Odourless
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not determined
Boiling point	: Not determined
Flammability	: Non flammable
Explosive properties	: Stable under normal conditions of use
Oxidising properties	: Not oxidizing
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not determined
Auto-ignition temperature	: Not determined
Decomposition temperature	: Not applicable
pH	: Not applicable
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Solubility	: Not determined
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: Not applicable
Vapour pressure	: Not determined
Vapour pressure at 50 °C	: Not available
Density	: 3.7 g/cm ³
Relative density	: Not determined
Relative vapour density at 20 °C	: Not determined
Particle size	: Not available
Particle size distribution	: 16 — 50 µm
Particle shape	: Spherical
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Iron (7439-89-6)

LD50 oral rat	98.6 g/kg (Boyd EM, Shanas MN, 1963, Canad Med Ass J July 27, 1963, vol. 89, 171-175)
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Nickel (7440-02-0)

LD50 oral rat	> 9000 mg/kg
LC50 Inhalation - Rat	> 10.2 mg/l (Exposure time: 1 h)

Cobalt (7440-48-4)

LD50 oral rat	6171 mg/kg
LC50 Inhalation - Rat	> 10 mg/l (Exposure time: 1 h)

Molybdenum (7439-98-7)

LD50 oral rat	> 2000 mg/kg Source: ECHA
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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Molybdenum (7439-98-7)

LD50 dermal rabbit > 2000 mg/kg Source: ECHA

LC50 Inhalation - Rat > 5.84 mg/l/4h

LC50 Inhalation - Rat (Dust/Mist) > 3.92 mg/l Source: ECHA

Skin corrosion/irritation : Not classified
pH: Not applicable

Additional information : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified
pH: Not applicable

Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : May cause cancer.

Nickel (7440-02-0)

IARC group 2B - Possibly carcinogenic to humans

Cobalt (7440-48-4)

IARC group 2B - Possibly carcinogenic to humans

Reproductive toxicity : May damage fertility.

Cobalt (7440-48-4)

NOAEL (animal/female, F0/P) 100 mg/kg bodyweight

STOT-single exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Nickel (7440-02-0)

LOAEC (inhalation, rat,dust/mist/fume, 90 days) 0.004 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

STOT-repeated exposure Causes damage to organs through prolonged or repeated exposure.

Molybdenum (7439-98-7)

NOAEC (inhalation, rat, dust/mist/fume, 90 days) > 0.1 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

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Viscosity, kinematic Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential Adverse human health effects and symptoms : No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

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Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

Nickel (7440-02-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
LC50 - Fish [2]	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
LC50 - Other aquatic organisms [1]	7.35 – 12.12 mg/l (Exposure time: 96 h - Species: Calanoid copepod (Eurytemora affinis))
EC50 - Crustacea [1]	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Cobalt (7440-48-4)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
NOEC (chronic)	0.003 mg/l (Exposure time: 28-day, reproduction and survival, Daphnia magna)
NOEC chronic crustacea	≤ 0.05 mg/l (Exposure time: 21-day, reproduction and survival, Daphnia magna)

Molybdenum (7439-98-7)	
LC50 - Fish [1]	609.1 mg/l Source: EHCA
EC50 72h - Algae [1]	289.2 mg/l Source: ECHA

12.2. Persistence and degradability

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Persistence and degradability	The methods for determining biodegradability are not applicable to inorganic substances. May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

EOS MaragingSteel MS1	
Partition coefficient n-octanol/water (Log Pow)	Not applicable
Bioaccumulative potential	Not established

Cobalt (7440-48-4)	
BCF - Fish [1]	(no bioaccumulation)

Molybdenum (7439-98-7)	
Partition coefficient n-octanol/water (Log Pow)	0.23 Source: SRC Access on Jan 2006

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

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SECTION 13: Disposal considerations




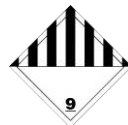
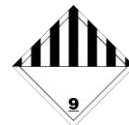
13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Environmentally hazardous substance, solid, n.o.s.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport document description				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s., 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : M7
Special provisions (ADR) : 274, 335, 375, 601
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P002, IBC08, LP02, R001
Special packing provisions (ADR) : PP12, B3
Mixed packing provisions (ADR) : MP10
Portable tank and bulk container instructions (ADR) : T1, BK1, BK2, BK3

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Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAV, LGBV

Vehicle for tank carriage : AT

Transport category (ADR) : 3

Special provisions for carriage - Packages (ADR) : V13

Special provisions for carriage - Bulk (ADR) : VC1, VC2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13

Hazard identification number (Kemler No.) : 90

Orange plates : 

Tunnel restriction code (ADR) : -

Transport by sea

Special provisions (IMDG) : 274, 335, 966, 967, 969

Limited quantities (IMDG) : 5 kg

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP02, P002

Special packing provisions (IMDG) : PP12

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B3

Tank instructions (IMDG) : BK1, BK2, BK3, T1

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-F

Stowage category (IMDG) : A

Stowage and handling (IMDG) : SW23

Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y956

PCA limited quantity max net quantity (IATA) : 30kgG

PCA packing instructions (IATA) : 956

PCA max net quantity (IATA) : 400kg

CAO packing instructions (IATA) : 956

CAO max net quantity (IATA) : 400kg

Special provisions (IATA) : A97, A158, A179, A197

ERG code (IATA) : 9L

Inland waterway transport

Classification code (ADN) : M7

Special provisions (ADN) : 274, 335, 375, 601

Limited quantities (ADN) : 5 kg

Excepted quantities (ADN) : E1

Carriage permitted (ADN) : T* B**

Equipment required (ADN) : PP, A

Number of blue cones/lights (ADN) : 0

Additional requirements/Remarks (ADN) : * Only in the molten state. ** For carriage in bulk see also 7.1.4.1. *** Only in the case of transport in bulk.

Rail transport

Classification code (RID) : M7

Special provisions (RID) : 274, 335, 375, 601

Limited quantities (RID) : 5kg

Excepted quantities (RID) : E1

Packing instructions (RID) : P002, IBC08, LP02, R001

Special packing provisions (RID) : PP12, B3

Mixed packing provisions (RID) : MP10

Portable tank and bulk container instructions (RID) : T1, BK1, BK2, BK3

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Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV, LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W13
Special provisions for carriage – Bulk (RID) : VC1, VC2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Nickel

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II).

Sources of Key data : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

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 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341	Suspected of causing genetic defects

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Full text of H- and EUH-statements:

H350	May cause cancer
H351	Suspected of causing cancer
H360F	May damage fertility
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H410	Very toxic to aquatic life with long lasting effects
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Acute Tox. 4 (Oral)	H302	Expert judgment
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 1B	H350	Calculation method
Repr. 1B	H360F	Expert judgment
STOT RE 1	H372	Calculation method
Aquatic Acute 1	H400	Expert judgment
Aquatic Chronic 2	H411	Expert judgment

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.