



EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 11/10/2017 Revision date: 29/01/2024 Version: 6.1

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

1.1. Product identifier

Product form : Mixture
Name : EOS NickelAlloy HX
Product code : 9011-0023, 9011-0034
Type of product : Alloy, Powder
UFI : MDK9-DPW3-QC89-U0PK

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 : Heat resistant nickel alloy 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 – Chronic Hazard, Category 3	H412

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

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.

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Precautionary statements (CLP)	H341 - Suspected of causing genetic defects. H350 - May cause cancer. H360F - May damage fertility. H372 - Causes damage to organs through prolonged or repeated exposure. H412 - Harmful to aquatic life with long lasting effects. : P202 - Do not handle until all safety precautions have been read and understood. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P284 - Wear respiratory protection. P405 - Store locked up. 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]
Nickel	CAS-No.: 7440-02-0 EC-No.: 231-111-4 EC Index-No.: 028-002-00-7 REACH-no: 01-2119438727-29	30 – 54	Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Chromium	CAS-No.: 7440-47-3 EC-No.: 231-157-5 REACH-no: 01-2119485652-31	20 – 25	Not classified
Cobalt	CAS-No.: 7440-48-4 EC-No.: 231-158-0 EC Index-No.: 027-001-00-9 REACH-no: 01-2119517392-44	1 – 2,4	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Irrit. 2, H319 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>
Copper	CAS-No.: 7440-50-8 REACH-no: 01-2119480154-42	0 – 0.1	Aquatic Acute 1, H400 Aquatic Chronic 2, H411 <i>M-factor: 1</i>

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

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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 you feel unwell, seek medical advice (show the label where possible).
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. 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	: May damage fertility. May cause cancer. Suspected of causing genetic defects. May cause cancer. Causes 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	: Dry extinguishing powder. Dry sand.
Unsuitable extinguishing media	: Carbon dioxide. Water.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Nickel monoxide. Cobalt oxide. Molybdenum trioxide. Carbon monoxide. Carbon dioxide.
--------------------------------------------------	----------------------------------------------------------------------------------------

5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
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

6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment. Refer to section 8.
Emergency procedures	: Keep away from ignition sources. Evacuate unnecessary personnel.

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.

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spill using a vacuum cleaner with a HEPA filter or wet and scoop up dry spills. Minimise generation of dust. Store away from other materials.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid raising powdered materials into airborne dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Do not breathe dust. Take precautionary measures against static discharge. Keep away from open flames, hot surfaces and sources of ignition.

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. Wash hands, forearms and face thoroughly after handling.

Advice on protection against fire and explosion : During processing dust may form explosive mixture in air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.

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

Chromium (7440-47-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Chromium metal
IOEL TWA	2 mg/m ³
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
United Kingdom - Occupational Exposure Limits	
Local name	Chromium
WEL TWA (OEL TWA) [1]	0.5 mg/m ³
WEL STEL (OEL STEL)	1.5 mg/m ³ (calculated)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Chromium VI
BMGV	10 µmol/mol creatinine Parameter: chromium - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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)
WEL chemical category	Capable of causing cancer and/or heritable genetic damage, Capable of causing occupational asthma

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

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

DNEL/DMEL (Workers)	
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
Long-term – systemic effects, inhalation	0.04 mg/m ³ Cobalt
DNEL/DMEL (Consumer)	
Acute – systemic effects, inhalation	408 mg/m ³ Nickel

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Acute – local effects, inhalation	2.4 mg/m ³ Nickel
Acute – oral	0.012 mg/kg/day Nickel
Long-term – local effects, dermal	0.035 mg/cm ² Nickel
Long-term – systemic effects, inhalation	20 ng/m ³ Nickel
Long-term – local effects, inhalation	20 ng/m ³ Nickel
Long-term – systemic effects, oral	0.02 mg/kg/day Nickel
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:

Dust must be extracted directly at the point of origin. During standard processing, release of components above the exposure limit concentrations is not anticipated. However, with excessive heating creating the potential for decomposition, there is the potential for release of components at or above the exposure limit concentrations. Use appropriate engineering controls to ensure airborne concentrations are maintained below exposure limit concentrations.

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

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:

In case of repeated or prolonged contact (industrial environment), wear gloves; Chemical resistant gloves (according to European standard EN 374 or equivalent). Appropriate material: butyl rubber; nitrile rubber. Wear protective gloves.

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable particle mask (P3). In case of inadequate ventilation wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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	: None
Odour threshold	: Not applicable
Melting point	: 1200 – 1500 °C
Freezing point	: Not determined
Boiling point	: Not determined
Flammability	: Not determined Non flammable
Explosive properties	: Not explosive
Oxidising properties	: Not determined
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	: 3.5 – 4.8 g/cm ³
Relative density	: Not determined
Relative vapour density at 20 °C	: Not determined
Particle size	: 10 — 53 µm
Particle size distribution	: Not available
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

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

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

May form toxic gaseous nickel carbonyl under: high pressure; high carbon monoxide concentration. Hydrogen gas may be released in contact with mineral acids. Spontaneously flammable when finely dispersed.

10.4. Conditions to avoid

Extremely high temperatures. Remove all sources of ignition. Direct sunlight.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fumes. Nickel monoxide. Chromium oxides. 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

Chromium (7440-47-3)

LD50 oral rat	> 5000 mg/kg Source: ECHA
LC50 Inhalation - Rat	> 5.41 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 5.41 mg/l Source: ECHA

Cobalt (7440-48-4)

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

Skin corrosion/irritation : Not classified
pH: Not applicable
Additional information : Based on available data, the classification criteria are not met

Chromium (7440-47-3)

pH	6.8 Source: The ECOTOXicology database
----	----------------------------------------

Copper (7440-50-8)

pH	Not applicable
----	----------------

Serious eye damage/irritation : Not classified
pH: Not applicable
Additional information : Based on available data, the classification criteria are not met

Chromium (7440-47-3)

pH	6.8 Source: The ECOTOXicology database
----	----------------------------------------

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Copper (7440-50-8)

pH	Not applicable
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.

Chromium (7440-47-3)

IARC group	3 - Not classifiable
------------	----------------------

Cobalt (7440-48-4)

IARC group	2B - Possibly carcinogenic to humans
------------	--------------------------------------

Nickel (7440-02-0)

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.

Chromium (7440-47-3)

LOAEC (inhalation, rat,dust/mist/fume, 90 days)	≥ 0.0044 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (oral, rat, 90 days)	1216 mg/kg bodyweight/day (Ivankovic, S. and R. Preussman, 1975, Food Cosmet Toxicol.13(3): 347-51)

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.
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

EOS NickelAlloy HX

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 : Harmful in contact with skin, Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Not classified

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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

Chromium (7440-47-3)	
LC50 - Fish [1]	13.9 – 210 mg/l Source: GESTIS
EC50 - Crustacea [1]	13.1 – 14.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.1 – 17.8 mg/l Source: GESTIS

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)

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)

12.2. Persistence and degradability

EOS NickelAlloy HX	
Persistence and degradability	Not established

12.3. Bioaccumulative potential

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

Chromium (7440-47-3)	
Partition coefficient n-octanol/water (Log Pow)	0.23 Source: SRC

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

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

EOS NickelAlloy HX	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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 comply with applicable local, national and 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				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on
27.	Nickel

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

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 (et sequens).

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
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 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
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.
H350	May cause cancer.
H351	Suspected of causing cancer.

EOS NickelAlloy HX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Full text of H- and EUH-statements:

H360F	May damage fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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]:

Resp. Sens. 1	H334	Calculation method. Expert judgment.
Skin Sens. 1	H317	Calculation method. Expert judgment
Muta. 2	H341	Calculation method. Expert judgment.
Carc. 1B	H350	Calculation method. Expert judgment.
Repr. 1B	H360F	Calculation method. Expert judgment.
STOT RE 1	H372	Calculation method. Expert judgment.
Aquatic Chronic 3	H412	Calculation method. 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.