

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Revision date: 09/18/2024 Date of issue: 04/04/2016

Version: 2.0

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

### 1.1. Product identifier

Product form Product Name : Mixture

: RECOMA 18, RECOMA 20, RECOMA 22, RECOMA 25C

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

**1.2.1.** Relevant identified uses Industrial/Professional use spec

: Permanent Magnets

### 1.2.2. Uses advised against

No additional information available

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

### Manufacturer

Arnold Magnetic Technologies AG

Hübelacherstrasse 15

CH-5242 Lupfig, Switzerland

Phone: (+41) (0) 56 464 21 00

### www.arnoldmagnetics.com

### **1.4.** Emergency telephone number

Emergency number : (+41) (0) 56 464 21 00

### **SECTION 2: Hazards identification**

Under normal conditions of use and handling in the solid form, harmful substances cannot be released. Much of the information provided in this SDS is for situations of use in which hazardous exposures may occur, such as laser cutting or machining.

### 2.1. Classification of the substance or mixture

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

| Acute Tox. 4 (Oral)                 | H302 |
|-------------------------------------|------|
| Acute Tox. 4 (Dermal)               | H312 |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 |
| Skin Irrit. 2                       | H315 |
| Eye Irrit. 2                        | H319 |
| STOT SE 3                           | H335 |
|                                     |      |

Full text of hazard classes and H-statements : see section 16

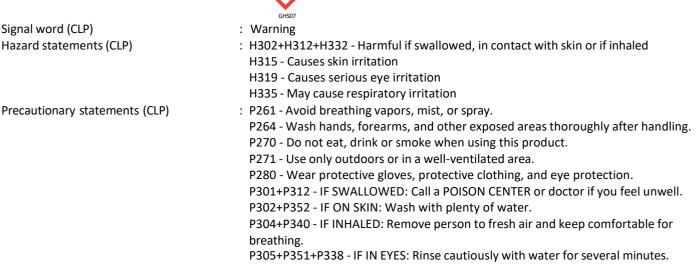
### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

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

Hazard pictograms (CLP)



Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

|      | Remove contact lenses, if present and easy to do. Continue rinsing.   |
|------|---|
|      | P312 - Call a POISON CENTER or doctor if you feel unwell.   |
|      | P321 - Specific treatment (see section 4 on this SDS).  |
|      | P330 - Rinse mouth.   |
|      | P332+P313 - If skin irritation occurs: Get medical advice/attention.  |
|      | P337+P313 - If eye irritation persists: Get medical advice/attention.   |
|      | P362+P364 - Take off contaminated clothing and wash it before reuse.  |
|      | P403+P233 - Store in a well-ventilated place. Keep container tightly closed.                                      |
|      | P405 - Store locked up.   |
|      | P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations. |
| ents | : EUH208 - Contains Nickel(7440-02-0). May produce an allergic reaction   |
|      |   |

# EUH-statements **2.3.** Other hazards

Molten material may produce fumes that are toxic, or irritating, and may cause metal fume fever. When machined or physically altered material may produce dusts or ribbons that may be irritating or harmful. Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Chips and broken magnets can be very sharp. Pacemaker function may be affected by magnets. These magnets are powerful and can accelerate at high speeds toward each other. When these magnets come together quickly, they can shatter and break sending particles at speed and can also pinch strongly if allowed to come together against the skin.

### **SECTION 3: Composition/information on ingredients**

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name                                 | Product identifier  | %      | Classification according to Regulation<br>(EC) No. 1272/2008 [CLP]  |
|--------------------------------------|---|--------|---|
| Cobalt, compound with samarium (5:1) | (CAS No) 12017-68-4<br>(EC no) 234-625-7                              | <= 100 | Acute Tox. 4 (Oral), H302<br>Acute Tox. 4 (Dermal), H312<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| Nickel                               | (CAS No) 7440-02-0<br>(EC no) 231-111-4<br>(EC index no) 028-002-00-7 | <= 0,2 | Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT RE 1, H372<br>Aquatic Chronic 3, H412   |

# Full text of H-statements: see section 16

| ures  |
|---|
| : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.   |
| : When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.   |
| <ul> <li>Remove contaminated clothing. Drench affected area with water for at least 15<br/>minutes. Get immediate medical advice/attention.</li> </ul>  |
| : Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if<br>present and easy to do. Continue rinsing. Get immediate medical advice/attention  |
| : Rinse mouth. Do NOT induce vomiting. Obtain medical attention.  |
| and effects, both acute and delayed   |
| : Under normal conditions of use not expected to present a significant hazard.<br>During processing or physical alteration, flakes or powder cause irritation of the<br>respiratory tract, eyes, skin, and are harmful. Molten material may release toxic,<br>and irritating fumes. |
| : For particulates and dust: Irritation of the respiratory tract and the other mucous membranes. Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness.  |
|   |

Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| According to Regulation (EC) No. 1907/2006 (REACH) with its an | nendment Regulation (EU) 2015/830   |
|--|---|
| Symptoms/injuries after skin contact                           | : For particulates and dust: Redness, pain, swelling, itching, burning, dryness, and dermatitis. This material is harmful through skin contact, and can cause adverse health effects or death in significant amounts. This material may be absorbed through the skin and eyes. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact                            | <ul> <li>For particulates and dust: Contact causes severe irritation with redness and<br/>swelling of the conjunctiva.</li> </ul>   |
| Symptoms/injuries after ingestion                              | : For particulates and dust: This material is harmful orally and can cause adverse health effects or death in significant amounts.  |
| Chronic symptoms   | : For particulates and dust: Suspected of causing cancer.   |
| 4.3. Indication of any immediate m                             | nedical attention and special treatment needed  |
| If exposed or concerned, get medical advic                     | e and attention. If medical advice is needed, have product SDS at hand.   |
| SECTION 5: Firefighting measu                                  | ires  |
| 5.1. Extinguishing media                                       |   |
| Suitable extinguishing media<br>Unsuitable extinguishing media | : Dry sand; Class D Extinguishing Agent (for metal powder fires).<br>: Do not use water.  |
| 5.2. Special hazards arising from the                          | ne substance or mixture   |
| Fire hazard  | : Product is not flammable. Small chips, turnings, dust and fines from processing   |
|  | may be readily ignitable. Under fire conditions, hazardous fumes will be present.   |
| Explosion hazard   | : Metallic dusts may ignite or explode.   |
| Reactivity   | : Hazardous reactions will not occur under normal conditions.   |
| Hazardous decomposition products in<br>case of fire            | : Metal oxides.   |
| 5.3. Advice for firefighters                                   |   |
| Precautionary measures fire                                    | : Exercise caution when fighting any chemical fire.   |
| Firefighting instructions                                      | : Use carbon dioxide extinguisher for cooling exposed containers. Remove containers from fire area if this can be done without risk. Beware of reignition.  |
| Protection during firefighting                                 | <ul> <li>Firefighters should wear full protective gear. Wear self-contained breathing<br/>apparatus when entering area unless atmosphere is proved to be safe.</li> </ul>   |
| SECTION 6: Accidental release                                  |   |
|  |   |
| 6.1. Personal precautions, protecti<br>General measures        | ve equipment and emergency procedures<br>: Avoid contact with skin, eyes and clothing.  |
| 6.1.1. For non-emergency personnel                             | . Avolu contact with skin, eyes and clothing.   |
| Evacuate unnecessary personnel.                                |   |
| 6.1.2. For emergency responders                                |   |
| • • •  | n sources. Keep wet with water. Do not allow to dry.  |
| 6.2. Environmental precautions                                 |   |
| Prevent entry to sewers and public waters.                     |   |
| 6.3. Methods and material for con                              |   |
| Methods for cleaning up  | : Clean up spills immediately and dispose of waste safely. Use only non-sparking tools. Transfer spilled material to a suitable container for disposal.   |
| 6.4. Reference to other sections                               |   |
| See Section 8, Exposure Controls and Perso                     | nal Protection. See Section 13, Disposal Considerations.  |
| <b>SECTION 7: Handling and stor</b>                            | age   |
| 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.  |
| Hygiene measures   | <ul> <li>Handle in accordance with good industrial hygiene and safety procedures. Wash<br/>hands and other exposed areas with mild soap and water before eating, drinking,<br/>or smoking and again when leaving work.</li> </ul>   |
| 7.2. Conditions for safe storage, in                           |   |
| Storage conditions<br>Incompatible products                    | : Store in a dry, cool and well-ventilated place.<br>: None known.  |
| 7.3. Specific end use(s)                                       |   |
| Permanent Magnets  |   |

Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### **SECTION 8: Exposure controls/personal protection**

8.1. **Control parameters** : Confirmation of parameters is recommended

| Nickel (7440-02-0) |  |   |
|--------------------|--|---|
| Austria            | TEL TRK (mg/m <sup>3</sup> )                     | 0,5 mg/m <sup>3</sup> (dust, inhalable fraction)  |
| Austria            | OEL chemical category (AT)                       | Group A1 Carcinogen dust/aerosol, Respiratory sensitizer dust, Skin sensitizer  |
| Belgium            | Limit value (mg/m³)                              | 1 mg/m <sup>3</sup>   |
| Bulgaria           | OEL TWA (mg/m³)                                  | 0,05 mg/m <sup>3</sup>  |
| Bulgaria           | Bulgaria - BEI                                   | 45 μg/l (Medium: urine - Time: after several<br>shifts - Parameter: Nickel)   |
| Croatia            | GVI (granična vrijednost izloženosti)<br>(mg/m³) | 0,5 mg/m³   |
| Croatia            | OEL chemical category (HR)                       | Carcinogen category 3   |
| France             | VME (mg/m³)                                      | 1 mg/m <sup>3</sup><br>1 mg/m <sup>3</sup> (metal gratings)   |
| France             | OEL chemical category (FR)                       | Carcinogen category 2   |
| Greece             | OEL TWA (mg/m <sup>3</sup> )                     | 1 mg/m <sup>3</sup>   |
| USA ACGIH          | ACGIH TWA (mg/m <sup>3</sup> )                   | 1,5 mg/m <sup>3</sup> (inhalable fraction)  |
| Latvia             | OEL TWA (mg/m <sup>3</sup> )                     | 0,05 mg/m <sup>3</sup>  |
| Spain              | VLA-ED (mg/m³)                                   | 1 mg/m <sup>3</sup> (manufacturing, commercialization and use restrictions according to REACH)  |
| Spain              | OEL chemical category (ES)                       | C1A, Sensitizer   |
| Switzerland        | VME (mg/m <sup>3</sup> )                         | 0,5 mg/m <sup>3</sup> (inhalable dust)  |
| Switzerland        | OEL chemical category (CH)                       | Category C3 carcinogen, Sensitizer  |
| Switzerland        | Switzerland - BEI                                | 45 μg/l (Medium: urine - Time: end of shift, and<br>after several shifts (for long-term exposures) -<br>Parameter: Nickel (N)   |
| United Kingdom     | WEL TWA (mg/m³)                                  | 0,5 mg/m <sup>3</sup>   |
| United Kingdom     | WEL STEL (mg/m <sup>3</sup> )                    | 1,5 mg/m <sup>3</sup> (calculated)  |
| United Kingdom     | WEL chemical category                            | Potential for cutaneous absorption  |
| Czech Republic     | Expoziční limity (PEL) (mg/m <sup>3</sup> )      | 0,5 mg/m <sup>3</sup>   |
| Czech Republic     | OEL chemical category (CZ)                       | Sensitizer  |
| Czech Republic     | Czech Republic - BEI                             | 0,077 μmol/mmol Creatinine (Medium: urine -<br>Time: discretionary - Parameter: Nickel)<br>0,04 mg/g Kreatinin (Medium: urine - Time:<br>discretionary - Parameter: Nickel) |
| Denmark            | Grænseværdie (langvarig) (mg/m <sup>3</sup> )    | 0,05 mg/m <sup>3</sup> (dust and powder)  |
| Estonia            | OEL TWA (mg/m <sup>3</sup> )                     | 0,5 mg/m <sup>3</sup>   |
| Estonia            | OEL chemical category (ET)                       | Sensitizer  |
| Finland            | HTP-arvo (8h) (mg/m³)                            | 0,01 mg/m <sup>3</sup>  |
| Finland            | Finland - BEI                                    | 0,1 µmol/l (Medium: urine - Time: end of shift at<br>end of workweek - Parameter: Nickel)   |
| Hungary            | MK-érték   | 0,1 mg/m <sup>3</sup>   |
| Hungary            | OEL chemical category (HU)                       | Carcinogenic substance, Sensitizer  |
| Ireland            | OEL (8 hours ref) (mg/m <sup>3</sup> )           | 0,5 mg/m <sup>3</sup>   |
| Ireland            | OEL (15 min ref) (mg/m3)                         | 1,5 mg/m <sup>3</sup> (calculated)  |
| Lithuania          | IPRV (mg/m <sup>3</sup> )                        | 0,5 mg/m <sup>3</sup>   |
| Lithuania          | OEL chemical category (LT)                       | Carcinogen, Sensitizer  |
| Norway             | Grenseverdier (AN) (mg/m <sup>3</sup> )          | 0,05 mg/m <sup>3</sup>  |
| Norway             | Grenseverdier (Korttidsverdi) (mg/m3)            | 0,05 mg/m <sup>3</sup>  |

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Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| Nickel (7440-02-0) |   |   |
|--------------------|---|---|
| Norway             | OEL chemical category (NO)                                    | Carcinogen, Potential reproductive hazard,<br>Sensitizing substance   |
| Poland             | NDS (mg/m <sup>3</sup> )                                      | 0,25 mg/m <sup>3</sup>  |
| Romania            | OEL TWA (mg/m <sup>3</sup> )                                  | 0,10 mg/m <sup>3</sup>  |
| Romania            | OEL STEL (mg/m <sup>3</sup> )                                 | 0,50 mg/m <sup>3</sup>  |
| Romania            | OEL chemical category (RO)                                    | Carcinogen  |
| Romania            | Romania - BEI   | 15 μg/l (Medium: urine - Time: end of shift -<br>Parameter: Nickel)   |
| Slovakia           | Slovakia - BEI  | 0,03 mg/l (Medium: blood - Time: end of exposure or work shift - Parameter: Nickel)   |
| Slovenia           | OEL TWA (mg/m <sup>3</sup> )                                  | 0,5 mg/m <sup>3</sup> (inhalable fraction)  |
| Slovenia           | OEL STEL (mg/m <sup>3</sup> )                                 | 2 mg/m <sup>3</sup> (inhalable fraction)  |
| Slovenia           | OEL chemical category (SL)                                    | Category 2  |
| Sweden             | nivågränsvärde (NVG) (mg/m <sup>3</sup> )                     | 0,5 mg/m <sup>3</sup> (total dust)  |
| Sweden             | OEL chemical category (SE)                                    | Sensitizer  |
| Portugal           | OEL TWA (mg/m <sup>3</sup> )                                  | 1,5 mg/m <sup>3</sup> (inhalable fraction)  |
| Portugal           | OEL chemical category (PT)                                    | A5 - Not Suspected as a Human Carcinogen  |
| Cobalt (7440-48-4) |   |   |
| Austria            | TEL TRK (mg/m³)   | 0,5 mg/m <sup>3</sup> (hardened metal, magnet<br>manufacturing, manufacture of Cobalt powder<br>and catalysts-inhalable fraction)<br>0,1 mg/m <sup>3</sup> (all others-inhalable fraction)  |
| Austria            | OEL chemical category (AT)                                    | Group A2 Carcinogen, Respiratory sensitizer, Skin notation, Skin sensitizer   |
| Belgium            | Limit value (mg/m <sup>3</sup> )                              | 0,02 mg/m <sup>3</sup> (dust and fume)  |
| Bulgaria           | OEL TWA (mg/m <sup>3</sup> )                                  | 0,1 mg/m <sup>3</sup>   |
| Croatia            | GVI (granična vrijednost izloženosti)<br>(mg/m <sup>3</sup> ) | 0,1 mg/m <sup>3</sup>   |
| France             | France - BEI  | 0,001 mg/l (Medium: blood - Time: end of shift at<br>end of workweek - Parameter: Cobalt<br>(Background noise on non-exposed subjects,<br>Semi-quantitative (ambiguous interpretation))<br>0,015 mg/l (Medium: urine - Time: end of shift at<br>end of workweek - Parameter: Cobalt<br>(Background noise on non-exposed subjects) |
| Greece             | OEL TWA (mg/m³)   | 0,1 mg/m <sup>3</sup> (dust and fume)   |
| USA ACGIH          | ACGIH TWA (mg/m <sup>3</sup> )                                | 0,02 mg/m <sup>3</sup>  |
| Latvia             | OEL TWA (mg/m <sup>3</sup> )                                  | 0,5 mg/m <sup>3</sup>   |
| Spain              | VLA-ED (mg/m <sup>3</sup> )                                   | 0,02 mg/m <sup>3</sup>  |
| Spain              | OEL chemical category (ES)                                    | Sensitizer  |
| Spain              | Spain - BEI   | <ul> <li>15 μg/l (Medium: urine - Time: end of workweek</li> <li>- Parameter: Cobalt)</li> <li>1 μg/l (Medium: blood - Time: end of workweek - Parameter: Cobalt)</li> </ul>  |
| Switzerland        | VME (mg/m <sup>3</sup> )                                      | 0,05 mg/m <sup>3</sup> (aerosol and dust, inhalable dust)   |
| Switzerland        | OEL chemical category (CH)                                    | Category C2 carcinogen, Category 3 mutagen,<br>Category 2 reproductive toxin, Sensitizer, Skin<br>notation  |
| Switzerland        | Switzerland - BEI   | 30 µg/l (Medium: urine - Time: end of shift -<br>Parameter: Cobalt)   |

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Safety Data Sheet

ī

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| Cobalt (7440-48-4) |   |   |
|--------------------|---|---|
| Netherlands        | Grenswaarde TGG 8H (mg/m <sup>3</sup> )       | 0,02 mg/m <sup>3</sup> (dust and smoke)   |
| United Kingdom     | WEL TWA (mg/m³)                               | 0,1 mg/m <sup>3</sup>   |
| United Kingdom     | WEL STEL (mg/m <sup>3</sup> )                 | 0,3 mg/m <sup>3</sup> (calculated)  |
| United Kingdom     | WEL chemical category                         | Capable of causing cancer and/or heritable genetic damage, Capable of causing occupational asthma   |
| Czech Republic     | Expoziční limity (PEL) (mg/m <sup>3</sup> )   | 0,05 mg/m <sup>3</sup>  |
| Czech Republic     | OEL chemical category (CZ)                    | Sensitizer  |
| Denmark            | Grænseværdie (langvarig) (mg/m <sup>3</sup> ) | 0,01 mg/m <sup>3</sup> (dust, fume and powder)  |
| Estonia            | OEL TWA (mg/m³)                               | 0,05 mg/m³  |
| Estonia            | OEL chemical category (ET)                    | Sensitizer  |
| Finland            | HTP-arvo (8h) (mg/m³)                         | 0,02 mg/m <sup>3</sup>  |
| Hungary            | AK-érték                                      | 0,1 mg/m <sup>3</sup>   |
| Hungary            | CK-érték                                      | 0,4 mg/m <sup>3</sup>   |
| Hungary            | OEL chemical category (HU)                    | Sensitizer  |
| Ireland            | OEL (8 hours ref) (mg/m <sup>3</sup> )        | 0,1 mg/m <sup>3</sup>   |
| Ireland            | OEL (15 min ref) (mg/m3)                      | 0,3 mg/m <sup>3</sup> (calculated)  |
| Ireland            | OEL chemical category (IE)                    | Sensitizer  |
| Lithuania          | IPRV (mg/m <sup>3</sup> )                     | 0,05 mg/m <sup>3</sup>  |
| Lithuania          | OEL chemical category (LT)                    | Carcinogen, Mutagen, Sensitizer   |
| Norway             | Grenseverdier (AN) (mg/m <sup>3</sup> )       | 0,02 mg/m³ (fume)   |
| Norway             | Grenseverdier (Korttidsverdi) (mg/m3)         | 0,06 mg/m³ (fume)   |
| Norway             | OEL chemical category (NO)                    | Potential reproductive hazard, Sensitizing substance  |
| Poland             | NDS (mg/m <sup>3</sup> )                      | 0,02 mg/m <sup>3</sup>  |
| Romania            | OEL TWA (mg/m <sup>3</sup> )                  | 0,05 mg/m <sup>3</sup>  |
| Romania            | OEL STEL (mg/m <sup>3</sup> )                 | 0,10 mg/m <sup>3</sup>  |
| Romania            | Romania - BEI                                 | <ul> <li>15 μg/l (Medium: urine - Time: end of work week</li> <li>- Parameter: Cobalt)</li> <li>1 μg/l (Medium: blood - Time: end of work week</li> <li>- Parameter: Cobalt)</li> </ul> |
| Slovakia           | NPHV (priemerná) (mg/m³)                      | 0,5 mg/m <sup>3</sup> (metal)   |
| Slovakia           | NPHV (Hraničná) (mg/m³)                       | 0,1 mg/m³ (metal)   |
| Slovakia           | OEL chemical category (SK)                    | Sensitizer metal  |
| Slovenia           | OEL TWA (mg/m³)                               | 0,5 mg/m <sup>3</sup> (inhalable fraction)<br>0,1 mg/m <sup>3</sup> (inhalable fraction)  |
| Slovenia           | OEL STEL (mg/m <sup>3</sup> )                 | 2 mg/m <sup>3</sup> (inhalable fraction)<br>0,4 mg/m <sup>3</sup> (other-inhalable fraction)  |
| Sweden             | nivågränsvärde (NVG) (mg/m³)                  | 0,02 mg/m <sup>3</sup> (total inhalable dust)   |
| Sweden             | OEL chemical category (SE)                    | Carcinogen, Sensitizer, Skin notation   |
| Portugal           | OEL TWA (mg/m <sup>3</sup> )                  | 0,02 mg/m <sup>3</sup>  |
| Portugal           | OEL chemical category (PT)                    | A3 - Confirmed Animal Carcinogen with<br>Unknown Relevance to Humans  |

8.2. Exposure controls

Appropriate engineering controls

: Ensure adequate ventilation, especially in confined areas. Use wet processes for cutting and grinding.

5

Safety Data Sheet

1007/2006 (05460) A

| According to Regulation (EC) No. 1907/2006 (REACH) with | its amendment Regulation (EU) 2015/830  |
|---|---|
| Personal Protective Equipment                           | : Protective goggles. Gloves.   |
|   |   |
| Materials for Protective Clothing                       | : For particulates and dust: Chemically resistant materials and fabrics.  |
| Hand Protection   | : Wear protective gloves.   |
| Eye Protection  | : Chemical safety goggles.  |
| Skin and body protection                                | : Wear suitable protective clothing.  |
| Respiratory protection                                  | <ul> <li>If exposure limits are exceeded or irritation is experienced, approved respiratory<br/>protection should be worn.</li> </ul> |
| Other information                                       | When using, do not eat, drink or smoke.   |
| SECTION 9: Physical and che                             | ica properties  |
| 9.1. Information on basic physic                        |   |
| Physical state  | : Solid   |
| Colour  | : Silver-grey   |
| Odour   | : None  |
| Odour threshold   | : Not applicable  |
| рН  | : Not applicable  |
| Evaporation rate  | : No data available   |
| Melting point   | : 1250 °C (2282 °F)   |
| Freezing point  | : No data available   |
| Boiling point   | : No data available   |
| Flash point   | : No data available   |
| Auto-ignition temperature                               | : No data available   |
| Decomposition temperature                               | : No data available   |
| Flammability (solid, gas)                               | : No data available   |
| Vapour pressure   | : No data available   |
| Relative vapour density at 20 °C                        | : No data available   |
| Solubility  | : No data available   |
| Partition coefficient: n-octanol/water                  | : No data available   |
| Viscosity   | : No data available   |
| Explosive properties                                    | : No data available   |
| Oxidising properties                                    | : No data available   |
| Explosive limits  | : No data available   |

#### 9.2. **Other information**

No additional information available

### **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

#### 10.2. **Chemical stability**

Stable under recommended handling and storage conditions (see section 7).

#### Possibility of hazardous reactions 10.3.

Hazardous polymerization will not occur.

#### 10.4. **Conditions to avoid**

None known.

10.5. **Incompatible materials** 

None known.

#### 10.6. Hazardous decomposition products

Thermal decomposition generates: Metal oxides.

# **SECTION 11: Toxicological information**

#### 11.1. Information on toxicological effects

: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: dust, mist: Harmful if inhaled. Acute toxicity

| RECOMA 18, RECOMA 20, RECOMA 22 |                         |
|---------------------------------|-------------------------|
| ATE CLP (oral)                  | 500,00 mg/kg bodyweight |
|                                 |                         |

Safety Data Sheet

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| ATE CLP (dermal)       1.100,00 mg/kg bodyweight         ATE CLP (dust,mist)       1,50 mg/l/4h         Nickel (7440-02-0)       Cobalt, compound with samarium (5:1) (12017-68-4)         ATE CLP (dermal)       500,00 mg/kg bodyweight         ATE CLP (dermal)       1.00,00 mg/kg bodyweight         ATE CLP (dermal)       1.00,00 mg/kg bodyweight         ATE CLP (dermal)       1.00,00 mg/kg bodyweight         ATE CLP (dust,mist)       1.50 mg/l/4h         Skin corrosion/irritation       : Causes skin irritation.         Serious eye damage/irritation       : Not classified         Germ cell mutagenicity       : Not classified         Carcinogenicity       : Not classified         National Toxicology Program (NTP) Status       Reasonably anticipated to be Human Carcinogen.         Reproductive toxicity       : Not classified         Specific target organ toxicity (single exposure)       : Not classified         Symptoms/Injuries After Inhalation       : For particulates and dust: Irritation of the respiratory tract and the other mucous membranes. Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness.         Symptoms/Injuries After Skin Contact       : For particulates and dust: Redness, pain, swelling, Itching, burning, dryness, and dermattics. This material is harmful through skin contact, and can cause adverse health effects or death in signi   | RECOMA 18, RECOMA 20, RECOMA 22  |   |  |
|---|--|---|--|
| Nickel (7440-02-0)           LD50 oral rat         > 9000 mg/kg           Cobalt, compound with samarium (5:1) (12017-68-4)   | ATE CLP (dermal)   | 1.100,00 mg/kg bodyweight   |  |
| LD50 oral rat       > 9000 mg/kg         Cobalt, compound with samarium (5:1) (12017-68-4)          ATE CLP (oral)       500,00 mg/kg bodyweight         ATE CLP (dermal)       1.100,00 mg/kg bodyweight         ATE CLP (dermal)       1.50 mg/l/dh         Skin corrosion/irritation       : Causes skin irritation.         Serious eye damage/irritation       : Causes serious eye irritation.         Respiratory or skin sensitisation       : Not classified         Garcinogenicity       : Not classified         Carcinogenicity       : Not classified         National Toxicology Program (NTP) Status       Reasonably anticipated to be Human Carcinogen.         Reproductive toxicity       : Not classified         Specific target organ toxicity (repeated exposure)       : May cause respiratory irritation.         Specific target organ toxicity (repeated exposure)       : Not classified         Symptoms/Injuries After Inhalation       : For particulates and dust: Irritation of the respiratory tract and the other muccous membranes. Inhalation is likely to cause adverse health effects or death in significant amounts.         Symptoms/Injuries After Skin Contact       : For particulates and dust: Contact cause severe irritation with redness and swelling of the conjunctiva.         Symptoms/Injuries After Ingestion       : For particulates and dust: Contact cause severe irritation with redness and swelling of the conjunctiva.   | ATE CLP (dust,mist)  | 1,50 mg/l/4h  |  |
| Cobalt, compound with samarium (5:1) (12017-68-4)         ATE CLP (oral)       500,00 mg/kg bodyweight         ATE CLP (dermal)       1.100,00 mg/kg bodyweight         ATE CLP (dust,mist)       1,50 mg/l/4h         Skin corrosion/irritation       : Causes serious eye irritation.         Serious eye damage/irritation       : Not classified         Germ cell mutagenicity       : Not classified         Carcinogenicity       : Not classified         Nickel (7440-02-0)       IARC group         IARC group       28         National Toxicology Program (NTP) Status       Reasonably anticipated to be Human Carcinogen.         Reproductive toxicity       : Not classified         Specific target organ toxicity (single exposure)       : Not classified         Symptoms/Injuries After Inhalation       : For particulates and dust: Irritation of the respiratory tract and the other mucous membranes. Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness.         Symptoms/Injuries After Skin Contact       : For particulates and dust: Redness, pain, swelling, itching, burning, dryness, and dermatitis. This material is harmful through skin contact, and can cause adverse health effects or death in significant amounts.         Symptoms/Injuries After Eye Contact       : For particulates and dust: Contact causes severe irritation with redness anal dwerse health effects or death in significant amounts.  | Nickel (7440-02-0)   |   |  |
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|   |  | <ul> <li>For particulates and dust: Contact causes severe irritation with redness<br/>and swelling of the conjunctiva.</li> <li>For particulates and dust: This material is harmful orally and can cause</li> </ul>   |  |
| CITOTIC SYMPTOTICS . FOLDATICUIALES AND OUSE SUSDECTED OF CAUSING CADCER  | Chronic Symptoms   | adverse health effects or death in significant amounts.<br>: For particulates and dust: Suspected of causing cancer.  |  |
| SECTION 12: Ecological information  |  |   |  |

### 12.1. Toxicity

| Ecology - general              | : Not classified.  |  |  |
|--------------------------------|--|--|--|
| Nickel (7440-02-0)             |  |  |  |
| LC50 fish 1                    | 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)  |  |  |
| EC50 Daphnia 1                 | 121,6 μg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static])                               |  |  |
| LC50 fish 2                    | 15,3 mg/l  |  |  |
| EC50 Daphnia 2                 | 1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])                                       |  |  |
| EC50 other aquatic organisms 2 | 0,174 (0,174 - 0,311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static]) |  |  |

### 12.2. Persistence and degradability

Not established

### 12.3. Bioaccumulative potential

Not established

### 12.4. Mobility in soil

No additional information available

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.5. Results of PBT and vPvB assessment

### No additional information available

### 12.6. Other adverse effects

Waste disposal recommendations

Other information

: Avoid release to the environment.

# SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Ecology - waste materials : Avoid release to the environment.

### **SECTION 14: Transport information**

| In accor | rdance with ADR /         | RID / IMDG / IATA / ADN  |                                    |                                    |                                    |  |
|----------|---------------------------|--|------------------------------------|------------------------------------|------------------------------------|--|
| ADR      |                           | IMDG   | ΙΑΤΑ                               | ADN                                | RID                                |  |
| 14.1.    | UN number                 |  |                                    |                                    |                                    |  |
| Not reg  | ulated for transpo        | ort  |                                    |                                    |                                    |  |
| 14.2.    | UN proper shi             | per shipping name  |                                    |                                    |                                    |  |
| Not app  | olicable                  | Not applicable   | Not applicable                     | Not applicable                     | Not applicable                     |  |
| 14.3.    | Transport haz             | oort hazard class(es)  |                                    |                                    |                                    |  |
| Not app  | olicable                  | Not applicable   | Not applicable                     | Not applicable                     | Not applicable                     |  |
| Not app  | olicable                  | Not applicable   | Not applicable                     | Not applicable                     | Not applicable                     |  |
| 14.4.    | Packing group             |  |                                    |                                    |                                    |  |
| Not app  | olicable                  | Not applicable   | Not applicable                     | Not applicable                     | Not applicable                     |  |
| 14.5.    | Environmenta              | l hazards  |                                    |                                    |                                    |  |
| -        | ous for the<br>ament : No | Dangerous for the<br>environment : No<br>Marine pollutant : No | Dangerous for the environment : No | Dangerous for the environment : No | Dangerous for t<br>environment : N |  |
| 116      | Special process           | tions for usor   |                                    |                                    |                                    |  |

### 14.6. Special precautions for user

Protect from breakage. Parts may be magnetic - no pacemakers near contents.

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

### Nickel (7440-02-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cobalt, compound with samarium (5:1) (12017-68-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical 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

Revision date Data sources : 02/24/2021

: According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full text of H- and EUH-statements:

| Acute Tox. 4 (Dermal)  | Acute toxicity (dermal), Category 4 |  |
|--|-------------------------------------|--|
| Acute Tox. 4 (Inhalation:dust,mist) Acute toxicity (inhalation:dust,mist) Category 4 |                                     |  |
| Acute Tox. 4 (Oral) Acute toxicity (oral), Category 4                                |                                     |  |
| Aquatic Chronic 3 Hazardous to the aquatic environment — Chronic Hazard, Category 3  |                                     |  |
| Carc. 2  | Carcinogenicity, Category 2         |  |

the No

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| Eye Irrit. 2  | Serious eye damage/eye irritation, Category 2  |  |  |
|---------------|--|--|--|
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2  |  |  |
| Skin Sens. 1  | Sensitisation — Skin, Category 1   |  |  |
| STOT RE 1     | Specific target organ toxicity — Repeated exposure, Category 1                             |  |  |
| STOT SE 3     | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |  |  |
| H302          | Harmful if swallowed   |  |  |
| H312          | Harmful in contact with skin   |  |  |
| H315          | Causes skin irritation   |  |  |
| H317          | May cause an allergic skin reaction  |  |  |
| H319          | Causes serious eye irritation  |  |  |
| H332          | Harmful if inhaled   |  |  |
| H335          | May cause respiratory irritation   |  |  |
| H351          | Suspected of causing cancer  |  |  |
| H372          | Causes damage to organs through prolonged or repeated exposure                             |  |  |
| H412          | Harmful to aquatic life with long lasting effects  |  |  |
| EUH208        | Contains . May produce an allergic reaction  |  |  |

EU GHS SDS

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.