\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**MANUFACTURER: HEYCO METALS INC.**

**ADDRESS**: 1069 Stinson Drive, Reading, PA 19605

**EMERGENCY PHONE**: 610-926-4131 Fax: 610-926-4134

[*www.heycometals.com*](http://www.heycometals.com)

IMPORTANT: Read this SDS prior to handling, processing or disposing of this product. Pass this information to employees or anyone using this product. Where users or customers of this product are changing its characteristics in any way by further processing, a new SDS must be generated incorporating the changes made.

**PRODUCT NAME**:

**1.1 Product identifier**

**Trade name Nickel-Chromium- and Nickel-Chromium-Iron-**

**Alloys**

**Other names or synonyms** IGS Chronin 82 / NiCr10 / Ferrochronin 600 / Ferrochronin

600LC / Ferrochronin 601 and similar alloy

**Registration number (REACH)** not relevant (mixture)

**CAS number** not relevant (mixture)

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

**Relevant identified uses**

Industrial and commercial applications

Raw material for:

Electrical industry / Lighting

Metal working

Solder alloys

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 2: HAZARDS IDENTIFICATION**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.1 Classification of the substance or mixture**

**Classification acc. to GHS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Section | Hazard Class | Category |  | Statement |
| 3.4s | Skin sensitisation | 1a | Skin Sens. 1a | H317 |
| 3.6 | carcinogenicity | 2 | Carc. 2 | H351 |
| 3.9 | specific target organ toxicity - repeated exposure | 1 | STOT RE 1 | H372 |

for full text of abbreviations: see SECTION 16

**The most important adverse physicochemical, human health and environmental effects**

Delayed or immediate effects can be expected after short or long-term exposure.

Open flames from welding or smoking must be prevented by organisational measures

Nickel alloy contains: Manganese, Chromium, Ferrous metal, Niobium, Aluminium

**2.2 Label elements**

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

This substance does not require a label. It does not present a hazard to human health by inhalation, ingestion

or contact with skin or to the aquatic environment in the form in which it is placed on the market.

**Signal word** not required

**Pictograms** not required

**Hazardous ingredients for labelling** Nickel, Cobalt

There is no additional information.

**SECTION 2: Hazards identification**

**The most important adverse physicochemical, human health and environmental effects**

**Additional information**

**2.2 Label elements**

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

**Signal word** not required

**Pictograms** not required

**Hazardous ingredients for labelling** Nickel, Cobalt

**2.3 Other hazards**

There is no additional information.

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**SECTION 3: COMPOSITION/INFORMATION, INGREDIENTS**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.1 Substances**

not relevant (mixture)

**3.2 Mixtures**

**Description of the mixture**

Compact metal/alloy without hazards for human health or environment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name of substance | Identifier | Wt % | Classification GHS | Pictograms |
| Nickel | CAS No  7440-02-0  EC No  231-111-4  Index No  028-002-00-7  REACH Reg. No  01-2119438727-29-xxxx | > 58 | Skin Sens. 1A / H317  Carc. 2 / H351  STOT RE 1 / H372 |  |
| Chromium | CAS No  7440-47-3  EC No  231-157-5  REACH Reg. No  01-2119485652-31-xxxx | 9 - 25 |  |  |
| Manganese | CAS No  7439-96-5  EC No  231-105-1  REACH Reg. No  01-2119449803-34-xxxx | 2.5 - 10 |  |  |
| Aluminum | CAS No  7429-90-5  EC No  231-072-3  Index No  013-001-00-6  REACH Reg. No  01-2119529243-45-xxxx | < 3.5 |  |  |
| Cobalt | CAS No  7440-48-4  EC No  231-158-0  Index No  027-001-00-9  REACH Reg. No  01-2119517392-44-  xxxx | < 1 | Resp. Sens. 1 / H334  Skin Sens. 1 / H317  Aquatic Chronic 4 / H413 |  |

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**SECTION 4: FIRST AID MEASURES\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**General Notes:**

Take off contaminated clothing.

**First Aid: Eyes**

Immediately flush cautiously with water. After initial flushing, remove any contact lenses and continue flushing for several minutes. Keep eye wide open while rinsing. Consult a physician.

**First Aid: Skin**

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

**First Aid: Inhalation**

|  |
| --- |
| Provide fresh air.  If dust or other particles are generated during processing, it is necessary to provide adequate ventilation  and/or respiration protection. If dust/particles have been inhaled call physician.  If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. |

**Following Ingestion:**

No exposure expected.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 5: FIRE-FIGHTING MEASURES\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**General Fire Hazards**

See Section 9 for Flammability Properties.

This product does not present fire or explosion hazards as shipped. Small chips, fines, and dust from processing may be readily ignitable.

**Hazardous Combustion Products**

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. See section 10.

**Extinguishing Media**

Class D extinguishing agents on fines, dust or molten metal. Use coarse water spray on chips and fines.

**Unsuitable Extinguishing Media**

DO NOT use halogenated extinguishing agents on small chips or fines. DO NOT use water for fires involving molten metal. These fire extinguishing agents will react with burning material.

**Fire Fighting Equipment/Instructions**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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**SECTION 6 - Accidental Release Measures\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**General**

No notable environmental hazard is anticipated from the “release” of this material in bulk solid form on land. This material should be recovered from aquatic environments.

**Recovery and Neutralization**

Avoid dust formation. Collect scrap for recycling.

**Materials and Methods for Clean-Up**

If product is molten, contain the flow using dry sand or salt flux as a dam. All tools and containers which come in contact with molten metal must be preheated or specially coated and rust free. Allow the spill to cool before remelting as scrap.

**Emergency Measures**

Keep people away from and upwind of spill/leak.

**Personal Precautions and Protective Equipment**

Wear appropriate protective clothing and respiratory protection for the situation.

**Environmental Precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

**Prevention of Secondary Hazards**

None

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 7: HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Avoid breathing fumes.

Avoid breathing dust.

Removal of dust deposits.

**Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation.

**Specific notes/details**

Dust deposits may accumulate on all deposition surfaces in a technical space.

**Measures to protect the environment**

Avoid release to the environment.

**Advice on general occupational hygiene**

Do not to eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

**7.2 Conditions for safe storage, including any incompatibilities**

**Explosive atmospheres**

Removal of dust deposits.

**Flammability hazards**

None.

**Incompatible substances or mixtures**

Incompatible materials: see section 10.

**Protect against external exposure, such as**

humidity

**Consideration of other advice**

Keep away from food, drink and animal feedingstuffs.

**Ventilation requirements**

Provision of sufficient ventilation.

**Packaging compatibilities**

Keep only in original container.

**7.3 Specific end use(s)**

No information available.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

No data available.

Respirable dusts are liberated only on abrasive treatment (e.g. sanding), but not from the product as

delivered.

Nickelverbindungen in einatembarer Form (z.B. Schweißrauch): 0,05 mg/m³ als Ni (siehe TRGS 528,

Tab.2).

**Occupational exposure limit values (Workplace Exposure Limits)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Coun-try | Agent | Cas # | Notat-ion | Identi-fier | TWA (ppm) | TWA (mg/m3) | STEL (ppm) | STEL (mg/m3) | Source |
| EU | Chrom-ium | 7440-47-3 |  | IOELV |  | 2 |  |  | 2006/15/ EC |
| GB | Dust |  | i | WEL |  | 10 |  |  | EH40/2005 |
| GB | Dust |  | r | WEL |  | 4 |  |  | EH40/2005 |
| GB | Alumin-ium | 7429-90-5 | i | WEL |  | 10 |  |  | EH40/2005 |
| GB | Alumin-ium | 7429-90-5 | r | WEL |  | 4 |  |  | EH40/2005 |
| GB | Mang-anese | 7439-96-5 |  | WEL |  | .5 |  |  | EH40/2005 |
| GB | Nickel | 7440-02-0 |  | WEL |  | .1 |  |  | EH40/2005 |
| GB | Silicon | 7440-21-3 | i | WEL |  | 10 |  |  | EH40/2005 |
| GB | Silicon | 7440-21-3 | r | WEL |  | 4 |  |  | EH40/2005 |
| GB | Chrom-ium | 7440-47-3 |  | WEL |  | .5 |  |  | EH40/2005 |
| GB | Cobalt | 7440-48-4 |  | WEL |  | .1 |  |  | EH40/2005 |

**Notation:**

i inhalable fraction

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

**Relevant DNELs of components of the mixture**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of substance | CAS # | End point | Threshold | Protection, exposure route | Used in | Exposure time |
| Chromium | 7440-47-3 | DNEL | .5 mg/m3 | Human, inhalatory | Worker (industry) | Chronic-local effects |
| Aluminium | 7429-90-5 | DNEL | 3.72 mg/m3 | Human, inhalatory | Worker (industry) | Chronic-local effects |
| Aluminium | 7429-90-5 | DNEL | 3.72 mg/m3 | Human, inhalatory | Worker (industry) | Chronic, systemic effects |
| Cobalt | 7440-48-4 | DNEL | 40 micro-g/m3 | Human, inhalatory | Worker (industry) | Chronic, local effects |

**Relevant PNECs of components of the mixture**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of Substance | CAS # | End Point | Threshold | Organism | Environmental  Compartment | **Exposure**  **Time** |
| Chrome | 7440-47-3 | PNEC | 6.5 micro-gram/l | Aquatic  organisms | Freshwater | **Short term single instance** |
| Chrome | 7440-47-3 | PNEC | 205.7 mg/kg | Aquatic  organisms | Freshwater sediment | **Short term single instance** |
| Chrome | 7440-47-3 | PNEC | 21.1 mg/kg | Terrestrial organisms | Soil | **Short term single instance** |
| Cobalt | 7440-47-3 | PNEC | .6 micro-gram/l | Aquatic  organisms | Freshwater | **Short term single instance** |
| Cobalt | 7440-47-3 | PNEC | 2.36 micro-gram/l | Aquatic  organisms | Marine water | **Short term single instance** |
| Cobalt | 7440-47-3 | PNEC | .37 mg/l | Aquatic  organisms | Sewage treatment plant | Short term single instance |
| Cobalt | 7440-47-3 | PNEC | 9.5 mg/kg | Aquatic  organisms | Freshwater sediment | Short term single instance |
| Cobalt | 7440-47-3 | PNEC | 9.5 mg/kg | Aquatic  organisms | Marine sediment | Short term single instance |
| Cobalt | 7440-47-3 | PNEC | 10.9 mg/kg | Terrestrial organisms | soil | Short term single instance |

**Engineering Measures**

Use adequate ventilation to keep fume or dust concentration below the occupational exposure limits shown above. Where dust is generated, enclose the process to prevent dispersion and exposure to personnel in the work area. Use appropriate NIOSH/OSHA-approved respiratory protection when necessary as specified in the Occupational Health and/or local regulations. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations.

Use safety glasses with side shields or goggles to protect against flying particles.

See ANSI Z49.1 “Safety in Welding and Cutting” and OSHA Regulation CFR 1910.252.

Use protective gloves to protect against hot objects and sharp edges.

Do not eat, drink or smoke while using these products in dust form. Use good personal hygiene. Wash hands and face with mild soap and water before eating, drinking or smoking.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

**Appearance**

Physical state solid

Form solid matter

Color metallic gloss

Odor odorless

Odor threshold these information are not available

Flammability (solid, gas) non-flammable

Explosion limits of dust clouds not determined

Vapor pressure 0 hPa at 20 °C

Density ~8 g/cm³

Vapor density these information are not available

Relative density these information are not available

**Solubility(ies)**

Water solubility these information are not available

**Partition coefficient**

n-octanol/water (log KOW) these information are not available

Auto-ignition temperature these information are not available

Decomposition temperature these information are not available

**Viscosity** not relevant

Kinematic viscosity these information are not available

Dynamic viscosity these information are not available

Explosive properties not explosive

Oxidising properties shall not be classified as oxidizing.

**\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 10: STABILITY AND REACTIVITY**

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

This material is not reactive under normal ambient conditions.

If exposed to air:

Pyrophoric property.

Finely distributed nickel reacts with air and can be self-igniting.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

**10.5 Incompatible materials**

strong oxidiser, acids

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

Metal oxide smoke, toxic.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

Test data are not available for the complete mixture.

**Classification procedure**

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification according to GHS (1272/2008/EC, CLP)**

**Acute toxicity**

Shall not be classified as acutely toxic.

**Acute toxicity of components of the mixture:ame of substance CAS No Exposure**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of substance | Cas # | Exposure route | Endpoint | Value | Species |
| Manganese | 7439-96-5 | Oral | LD50 | >2,000 mg/kg | Rat |
| Manganese | 7439-96-5 | Inhalation: dust/mist | LC50 | >5.14 mg/l/4h | Rat |
| Aluminum | 7429-90-5 | Inhalation: dust/mist | LC50 | >.888 mg/l/4h | Rat |
| Cobalt | 7440-48-4 | Oral | LD50 | 550 mg/kg | Rat |
| Cobalt | 7440-48-4 | Inhalation: dust/mist | LC50 | .05 mg/l/4h | Rat |

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Suspected of causing cancer.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity**

**Aquatic toxicity (acute)**

Test data are not available for the complete mixture.

**Aquatic toxicity (acute) of components of the mixture**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of substance | CAS # | Endpoint | Value | Species | Exposure time |
| Manganese | 7439-96-5 | LC50 | >3.6 mg/l | fish | 96 h |
| Manganese | 7439-96-5 | EC50 | >1.6 mg/l | Aquatic invertebrates | 48 h |
| Manganese | 7439-96-5 | ErC50 | 4.5 mg/l | Algae | 72 h |
| Cobalt | 7440-48-4 | EC50 | >100 mg/l | Aquatic invertebrates | 48 h |

**Aquatic toxicity (chronic)**

Test data are not available for the complete mixture.

**Aquatic toxicity (chronic) of components of the mixture**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of substance | Cas # | Endpoint | value | Species | Exposure time |
| Manganese | 7439-96-5 | EC50 | 1,000 mg/l | Micro-organisms | 3 h |
| Cobalt | 7440-48-4 | EC50 | 20 micro-gram/l | Algae | 70 h |

**12.2 Persistence and degradability**

**Biodegradation**

Data are not available.

**Persistence**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Other adverse effects**

Data are not available.

**Endocrine disrupting potential**

None of the ingredients are listed.

**Remarks**

Water hazard class - WHC (Wassergefährdungsklasse): 1 (Slightly hazardous to water)

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SECTION 13: DISPOSAL CONSIDERATIONS**

Maximize product recovery for reuse or recycling. Conditions of use may cause this material to become a solid “Hazardous Waste” as defined by state or federal laws. Solid waste “leachate” testing may indicate the need for properly permitted disposal of such wastes in compliance with all applicable laws.

Conditions of use may also generate liquid wastes with metal concentrations in excess of those permitted through pre-treatment or direct discharge NPDES requirements. Appropriate analyses should be conducted to ensure compliance with existing wasterwater permits.

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**SECTION 14: TRANSPORT INFORMATION**

Not regulated.

DOT Hazardous Materials Proper Shipping Name:

None.

DOT Hazard Class: N/AP

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**SECTION 15: REGULATORY INFORMATION**

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

**mixture**

**Relevant provisions of the European Union (EU)**

**Restrictions according to REACH, Annex**

**Dangerous substances with restrictions (REACH, Annex XVII)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of substance** | **Name acc. To inventory** | **Cas #** | **Remarks** |
| **Nickel** | **Nickel** | **7440-02-0** | **R27** |

**Legend**

R27 1. Shall not be used:

(a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless

the rate of nickel release from such post assemblies is less than 0,2 μg/cm2/week (migration limit);

(b) in articles intended to come into direct and prolonged contact with the skin such as:

- earrings,

- necklaces, bracelets and chains, anklets, finger rings,

- wrist-watch cases, watch straps and tighteners,

- rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,

if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 μg/cm2/week.

(c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 μg/cm2/week for a period of at least two years of normal use of the article.

2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.

3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.

**List of substances subject to authorisation (REACH, Annex XIV)**

None of the ingredients are listed

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in**

**electrical and electronic equipment (RoHS) - Annex II**

None of the ingredients are listed

**Regulation 166/2006/EC concerning the establishment of a European Pollutant Release**

**and Transfer Register (PRTR)**

**Pollutant release and transfer registers (PRTR)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of Substance** | **Cas #** | **Remarks** | **Threshold for release to air (kg/y)** |
| **Nickel** | **7440-02-0** | **(8)** | **50** |
| **Chromium** | **7440-47-3** | **(8)** | **100** |

Legend:

(8) All metals shall be reported as the total mass of the element in all chemical forms present in the release.

**Directive 2000/60/EC establishing a framework for Community action in the field of water**

**policy (WFD)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Water Framework Directive (WFD)** |  |  |  |
| **Name of Substance** | **CAS #** | **Listed in** | **remarks** |
| **Nickel** | **7440-02-0** | **Annex X** |  |

Legend

Annex X List of priority substances in the field of water policy

**Explosives precursors which are subject to restrictions**

None of the ingredients are listedSECTION **16: Other information**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION 16: OTHER INFORMATION**

**Indication of changes (revised safety data sheet)**

Indication of changes: Section 2+3+8+12+15

**Abbreviations and acronyms**

|  |  |
| --- | --- |
| 2006/15/EC | Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Coucil Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC |
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation  intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland  Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European  Agreement concerning the International Carriage of Dangerous Goods by Road) |
| Aquatic Chronic | hazardous to the aquatic environment - chronic hazard  Carc. |
| Carc. | Carcinogenicity |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | danger |
| DNEL | Derived No-Effect Level |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier  of substances commercially available within the EU (European Union) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods Code |
| Index No | the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation  (EC) No 1272/2008 |
| IOELV | indicative occupational exposure limit value |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| Resp. Sens. | respiratory sensitisation |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations  concerning the International carriage of Dangerous goods by Rail) |
| Skin Sens | skin sensitisation |
| STEL | short-term exposure limit |
| STOT RE | specific target organ toxicity - repeated exposure |
| TWA | time-weighted average |
| vPvB | very Persistent and very Bioaccumulative |
| WEL | workplace exposure limit |

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Classification procedure**

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

|  |  |
| --- | --- |
| Code | Text |
| H317 | may cause an allergic skin reaction |
| H334 | may cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H351 | suspected of causing cancer |
| H372 | causes damage to organs through prolonged or repeated exposure |
| H413 | may cause long lasting harmful effects to aquatic life |

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