

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product Identifier

Product Type Welding rods, Coated rod (electrode), Welding wire
Product Name **T800 Part/Rod/Wire/Electrode**
Product Code T-800

Type Base metals and alloys, > 1x1x1 mm

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

Recommended use Service life. cobalt and/or nickel containing alloys, steels, prefabricated parts and tools. Metallurgical Products. Wear and Corrosion Resistant Welding Consumable. Wear and Corrosion Resistant Components. For use in industrial installations only.

Uses advised against Consumer use.

1.3 Details of the supplier of the safety data sheet

Supplier Identification Aimtek, Inc.
 201 Washington Street
 Auburn, MA 01501
 USA

Prepared By Aimtek
E-mail sales@aimtek.com
Company Phone Number 508-832-5035

1.4 Emergency telephone number

Emergency telephone number CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
 1-800-424-9300 (NORTH AMERICA)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

| | |
|---------------------------|-------------|
| Acute Oral Toxicity | Category 4 |
| Respiratory Sensitization | Category 1B |
| Skin Sensitization | Category 1 |
| carcinogenicity | Category 1B |
| Reproductive Toxicity | Category 2 |

2.2 Label Elements

Product Name T800 Part/Rod/Wire/Electrode

Product Code KSYC1005-1

| | |
|---------------------------------|--|
| Signal Word | Danger |
| hazard statements | H302 - Harmful if swallowed H317 - May cause an allergic skin reaction H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled H350i - May cause cancer by inhalation H361f - Suspected of damaging fertility |
| Precautionary Statements | P202 - Do not handle until all safety precautions have been read and understood P260 - Do not breathe dust P270 - Do not eat, drink or smoke when using this product P285 - In case of inadequate ventilation wear respiratory protection P308 + P313 - IF exposed or concerned: Get medical advice/attention P280 - Wear protective gloves/protective clothing/eye protection/face protection |
| Precautionary Statements | P201 - Obtain special instructions before use P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking P264 - Wash hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area P272 - Contaminated work clothing should not be allowed out of the workplace P281 - Use personal protective equipment as required P284 - Wear respiratory protection P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P330 - Rinse mouth P363 - Wash contaminated clothing before reuse P403 + P233 - Store in a well-ventilated place. Keep container tightly closed P405 - Store locked up |

2.3 Other Hazards

Welding Hazards

CAUTION. Welding will create fumes which may be toxic. If welding is performed on plated or coated materials such as galvanised or painted steel, excessive fume may be produced which contains additional hazardous components, and may result in metal fume fever or other health effects. The product and work surface will be hot during and after welding. Electric shock can kill. Arc Rays can injure eyes and burn skin.

2.4 Additional Information

Potential Health Effects

Product information

INHALATION

May be harmful if inhaled. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic respiratory reaction.

Eye contact

May cause eye irritation with susceptible persons.

INGESTION

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may cause irritation to mucous membranes.

irritation

Repeated exposure may cause skin dryness or cracking.

sensitization

May cause sensitization of susceptible persons.

**Chronic Effects
Chronic Toxicity**

Prolonged exposure may cause chronic effects. CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Repeated or prolonged exposure may cause central nervous system damage. Contains a known or suspected reproductive toxin. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

carcinogenicity

This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Main Symptoms

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Neurological disorders.

Aggravated Medical Conditions

Skin disorders, Neurological disorders, Respiratory disorders, Preexisting eye disorders, Allergies, Central nervous system, Blood disorders, Kidney disorders, Liver disorders, Overexposure may cause female and male reproductive disorder(s), Use of alcoholic beverages may enhance toxic effects

Environmental Hazard

See section 12 for additional ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | Formula | CAS-No | Weight-% | GHS Classification |
|---------------|---------|-----------|----------|--|
| Cobalt | Co | 7440-48-4 | 25 - 50 | Acute Oral 4 (H302) Acute dust/mist 1 (H330) Eye damage 2 (H319) Resp. Sens. 1B (H334) Skin Sens. 1 (H317) Carc. 1B (H350) Inhalation Repr. tox 2 (H361)Fertility Aquatic Acute 1 M=10(H400) Aquatic Chronic 1 M=1(H410) |
| Molybdenum | Mo | 7439-98-7 | 25 - 50 | Not classified |
| Chromium | Cr | 7440-47-3 | 10 - 25 | Not classified |
| Silicon Metal | Si | 7440-21-3 | 3 - 5 | Not classified |
| Iron | Fe | 7439-89-6 | 0.1 - 1 | Not classified |
| Nickel | Ni | 7440-02-0 | 0.1 - 1 | STOT RE 1 (H372) Resp. tract, inhalation Carc. 2 (H351) Inhalation Skin Sens. 1 (H317) S,7 Aquatic Chronic 3 (H412) |

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350i - May cause cancer by inhalation
H351 - Suspected of causing cancer if inhaled
H361f - Suspected of damaging fertility
H372 - Causes damage to the following organs through prolonged or repeated exposure if inhaled:
Lungs
H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects

4. FIRST AID MEASURES

General Advice If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.1 Description of first aid measures

Eye contact Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water.

INHALATION Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Oxygen or artificial respiration if needed. Get medical attention. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

INGESTION Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth.

Self-Protection of the First Aider Self-Protection of the First Aider. Wear suitable gloves.

4.2. Most important symptoms and effects, both acute and delayed May cause allergy or asthma symptoms or breathing difficulties if inhaled. CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically. May cause sensitization by inhalation and skin contact.

Notes to physician Treat symptomatically May cause sensitization by inhalation and skin contact May cause sensitization of susceptible persons

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing Media Which Must Not Be Used For Safety Reasons None.

5.2 Special hazards arising from the substance or mixture Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. May cause sensitization by inhalation and skin contact. Carbon oxides.

5.3 Advice for fire- fighters Use personal protective equipment as required. In the event of fire, wear self-contained breathing apparatus.

Component information

| Chemical Name | Extinguishing Media for Fires (Suitable) | Extinguishing Media for Fires (Unsuitable) |
|---------------|---|--|
| Chromium | Use extinguishing media appropriate for surrounding fire. | Do not use carbon dioxide, which may form an explosive mixture with powdered chromium. |
| Silicon Metal | SMALL FIRES: Dry chemical, sand, water spray, foam.; LARGE FIRES: Water spray, fog, foam | - |

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Avoid contact with skin and eyes. Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust accumulation in enclosed space.

6.2 Environmental precautions Avoid release to the environment.

6.3 Methods and material for containment and cleaning up Pick up and transfer to properly labeled containers. Avoid generation of dust. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust.

6.4 Reference to other sections See Section 13: DISPOSAL CONSIDERATIONS

7. HANDLING AND STORAGE

7.1 Precautions for safe handling Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities
Storage

Keep out of the reach of children. Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place.

Storage Temperature

Storage Life Stable under normal conditions

7.3 Specific end use(s) Welding. .

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

| Chemical Name | China | Hong Kong | India | Indonesia | Japan |
|---------------|---|---|-----------------------------|--|--|
| Cobalt | TWA: 0.05 mg/m ³ STEL: 0.1 mg/m ³ | TWA: 0.02 mg/m ³ | - | TWA: 0.002 mg/m ³ | 0.05 mg/m ³ OEL 0.05 mg/m ³ OEL (except Tungsten carbide, as Co) |
| Molybdenum | TWA: 6 mg/m ³ STEL: 15 mg/m ³ | - | - | TWA: 5 mg/m ³ | - |
| Chromium | TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³ | TWA: 0.5 mg/m ³ | - | TWA: 0.5 mg/m ³ | 0.5 mg/m ³ OEL |
| Silicon Metal | - | - | - | TWA: 10 mg/m ³ | - |
| Iron | - | - | - | TWA: 1 mg/m ³ | - |
| Nickel | TWA: 1 mg/m ³ STEL: 2.5 mg/m ³ | TWA: 1.5 mg/m ³ | - | TWA: 1.5 mg/m ³ | 1 mg/m ³ OEL |
| Chemical Name | Korea | Philippines | Singapore | Taiwan | Thailand |
| Cobalt | TWA: 0.02 mg/m ³ | 0.1 mg/m ³ TWA (metal dust and fume) | PEL: 0.02 mg/m ³ | 0.05 mg/m ³ TWA (dust and fume) | TWA: 0.1 mg/m ³ |
| Molybdenum | TWA: 10 mg/m ³ | - | PEL: 10 mg/m ³ | - | - |

| | | | | | |
|----------------------|---|-------------------------|----------------------------|-------------------------|-----|
| | TWA: 5 mg/m ³ | | | | |
| Chromium | TWA: 0.5 mg/m ³ | 1 mg/m ³ TWA | PEL: 0.5 mg/m ³ | 1 mg/m ³ TWA | - |
| Silicon Metal | TWA: 10 mg/m ³ | - | PEL: 10 mg/m ³ | - | - |
| Nickel | TWA: 1 mg/m ³ | 1 mg/m ³ TWA | PEL: 1 mg/m ³ | 1 mg/m ³ TWA | - |
| Chemical Name | Vietnam | ... | ... | ... | ... |
| Cobalt | 0.05 mg/m ³ TWA 0.1 mg/m ³ STEL | - | - | - | - |
| Nickel | 0.05 mg/m ³ TWA 0.25 mg/m ³ STEL | - | - | - | - |

8.2 Exposure controls

Personal Precautions

Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. Wash hands before eating, drinking or smoking. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product.

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Eye protection

Use suitable eye protection to guard against the effects of welding. Wear safety glasses with side shields (or goggles). Eye-irrigation bottle with pure water.

Skin protection

Long sleeved clothing. Wear fire/flammable resistant/retardant clothing. Wear impervious gloves and/or clothing if needed to prevent contact with the material. Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Hand protection

Protective gloves. The product and work surface will be hot during and after welding. Ensure adequate protection is in place to stop individuals from burning themselves.

Respiratory Protection

Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday.

Special Precautions for Users

Eye-irrigation bottle with pure water. Health Surveillance should be in place for employees who are exposed while using this product. Training required.

Biological standards

| Chemical Name | USA ACGIH -BEI |
|---------------|---|
| Cobalt | 15 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (nonspecific) |
| Chemical Name | Japan |
| Cobalt | 3 µg/L Medium: blood Time: within 2 h prior to end of shift at end of work week Parameter: Cobalt; 35 µg/L Medium: urine Time: within 2 h prior to end of shift at end of work week Parameter: Cobalt (except Cobalt oxides); 35 µg/L Medium: urine Time: within 2 h prior to end of shift at end of work week Parameter: Cobalt (except Cobalt oxides) |

Environmental Exposure Controls

Do not allow to enter into soil/subsoil. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | | | |
|-----------------------------|----------------|--------------------------------------|-----------------------------|
| Physical State @20°C | Solid | appearance | Solid, Metallic |
| Odor | Odorless | Melting Point / Melting Range | 1285-1395 °C / 2340-2540 °F |
| Flash Point | Not applicable | vapor pressure | Not applicable |
| vapor density | Not applicable | Water Solubility | Insoluble in water |
| Dynamic Viscosity | Solid | Density VALUE | 8.44 g/cm3 |

9.2. Other information
VOC content (%) Not applicable

Component information

| Chemical Name | Mol. Weight | Water Solub. | Vap. Press. | Vap. Dens. | pH Val. | Autoign. Temp. | Evap. Rate | Boil. Temp. |
|---------------|-------------|-----------------|------------------------|------------|---------|----------------|------------|----------------------|
| Cobalt | 58.93 g/mol | - | 0.00007 hPa at 1050 °C | - | - | - | - | 2870 °C |
| Molybdenum | 95.95 g/mol | 0 mg/L at 20 °C | - | - | - | - | - | 4612 °C at 101.3 hPa |
| Chromium | 51.99 g/mol | - | - | - | - | - | - | 2642 °C |
| Silicon Metal | 28.08 g/mol | <1 mg/L | - | - | - | - | - | - |
| Iron | 55.84 g/mol | - | 0.000001 hPa at 25 °C | - | - | >100 °C | - | - |
| Nickel | 58.69 g/mol | - | 1 mmHg at 1810 °C | - | - | - | - | - |

| Chemical Name | Density VALUE | Melt. Temp. | flash point | Water Sol. | Bulk Dens. | Odor | State | Color |
|---------------|---------------------------|--------------------|-------------|------------|-------------------------------|------|-------|-----------------------|
| Cobalt | 8.85 - 8.9 g/cm3 at 20 °C | <1495 °C | - | insoluble | - | - | - | - |
| Molybdenum | 10.2 g/cm3 at 20 °C | 2617 °C (sublimes) | - | insoluble | - | - | - | - |
| Chromium | 7.19 g/cm3 at 20 °C | 1900 °C | - | insoluble | - | - | - | grey |
| Silicon Metal | 2.33 g/cm3 at 25 °C | 1410 °C | - | - | - | - | - | dark grey; dark brown |
| Iron | 7.87 g/cm3 at 25 °C | 1539 °C | - | insoluble | 3000 - 4000 kg/m ³ | - | - | - |
| Nickel | 8.9 g/cm3 at 25 °C | - | - | insoluble | - | - | - | - |

10. STABILITY AND REACTIVITY

- 10.1 Reactivity** Stable under normal conditions.
- 10.2 Chemical stability** Stable under normal conditions
- 10.3 Possibility of hazardous reactions** Stable under normal conditions.
- 10.4 Conditions to avoid** Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
- 10.5 Incompatible materials** Acids. Strong oxidizing agents.
- 10.6 Hazardous decomposition products** Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information

Acute Toxicity

| | |
|--|--|
| INHALATION | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Eye contact | May cause eye irritation with susceptible persons. |
| Skin Contact | Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Prolonged contact may cause redness and irritation. Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact. |
| Respiratory Sensitization | Category 1B |
| carcinogenicity | Category 1B |
| Reproductive, developmental and teratogenic effects | Contains a known or suspected reproductive toxin. |
| Neurological Effects | Repeated or prolonged exposure may cause central nervous system damage. Prolonged or excessive exposure to manganese in dust or fume may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask like face and impaired movement. |
| INGESTION | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Ingestion may cause irritation to mucous membranes |
| irritation | Repeated exposure may cause skin dryness or cracking. |
| corrosivity | No information available |
| sensitization | May cause sensitization of susceptible persons |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|---------------------|---|----------------------------------|
| Cobalt | 550 mg/kg bw | >2000 mg/kg bw | 0.05 mg/L |
| Molybdenum | LD50 >2000 mg/kg bw | Not Classified | LC50 >3.92 mg/L air |
| Chromium | LD50 >5000 mg/kg bw | Data waiving - Study Scientifically Unjustified | LC50 >5.41 mg/L air (analytical) |
| Silicon Metal | LD50 >3160 mg/kg bw | LD50 >5000 mg/kg bw | Acutely Non Toxic |
| Iron | = 984 mg/kg (Rat) | - | - |
| Nickel | >9000 mg/kg bw | Data waiving - Other Justification | NOAEC >=10.2 mg/L air |

Chronic Toxicity

Prolonged exposure may cause chronic effects. CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Repeated or prolonged exposure may cause central nervous system damage. Contains a known or suspected reproductive toxin. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Carcinogenic Effects The table below indicates whether each agency has listed any ingredient as a carcinogen

| Chemical Name | IARC | China - Carcinogens | India - Carcinogens | Indonesia - Carcinogens |
|---------------|--|---------------------------------|---------------------|---|
| Cobalt | Group 2B - Possible Human Carcinogen | Possibly carcinogenic to humans | - | A3 - confirmed animal carcinogen |
| Chromium | Group 3 - Not Classified as a Human Carcinogen | - | - | A4 - not classifiable as a human carcinogen |

| | | | | |
|----------------------|--|--|---|--------------------|
| Nickel | Nickel Compounds: Group 1 - Known Human Carcinogen - Nickel, Metallic & Alloy: Group 2B - Possible Human Carcinogen | Possibly carcinogenic to humans | - | - |
| Chemical Name | Japan | Japan - ISHL Designated Carcinogens | Korea - Carcinogens | Philippines |
| Cobalt | Group 2B | - | 2 - Limited evidence of human or animal carcinogenicity (metal dust and fume, Serial No. 519) | - |
| Nickel | Group 1 Group 2B | - | 2 - Limited evidence of human or animal carcinogenicity (metal, Serial No. 045) | - |

Mutagenic effects None known

Reproductive Toxicity Contains a known or suspected reproductive toxin.

developmental toxicity None known

Target Organ Effects Blood, Central Nervous System (CNS), Central Vascular System (CVS), EYES, Kidney, Liver, Lungs, Nasal cavities, Respiratory system, skin

Neurological Effects Repeated or prolonged exposure may cause central nervous system damage. Prolonged or excessive exposure to manganese in dust or fume may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask like face and impaired movement.

11.2 Other Information

Substance related information

None

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity

ecotoxicity Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Chemical Name | Algae Toxicity | Acute Fish Toxicity | Toxicity to microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---------------|---|---|----------------------------|--|
| Cobalt | LC50-144 ug/L (fresh water); LC50-24.1 ug/L (sea water); NOEC-4.9 ug/L (fresh water); NOEC-1.23 ug/L (sea water) | LC50-1.5 mg/l (fresh water); NOEC-351.4 mg/L | Not available | LC50-0.61 mg/l (fresh water); LC50-2.32 mg/l (sea water); NOEC-5.47 ug/L (fresh water); NOEC-206 ug/L (sea water) |
| Molybdenum | EC10 - 150 mg/L, NOEL - 169.9 ,h/L | LC50 - 609 mg/L | Not available | EC50 - 2847.5 mg/L |
| Chromium | Data Waiving - Study Scientifically Unjustified | Data Waiving - Study Scientifically Unjustified | Not available | Data Waiving - Study Scientifically Unjustified |
| Silicon Metal | Data Waiving - Study Scientifically Unjustified | Data Waiving - Other Justification | Not available | Data Waiving - Study Scientifically Unjustified |
| Iron | NOEC - 1.4 mg/L | Data Waiving - Study Scientifically Unjustified | Not available | Data Waiving - Study Scientifically Unjustified |
| Nickel | EC10 - 316.5 ug/L | LC50 - 15.3 mg/L | Not available | LC50 >200ug/L (@6-6.5 pH), 13ug/L (@8-8.5pH) |

12.2 Persistence and degradability Product/Substance is inorganic. Not applicable.

12.3 Bioaccumulative potential This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.4 Mobility in soil No information available

12.5 Results of PBT and vPvB assessment The components in this formulation do not meet the criteria for classification as PBT or vPvB

12.6 Other adverse effects None known

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

disposal considerations It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations as well as industry standards.

Waste from Residues/Unused Products Reuse or recycle. Recover or recycle if possible. Dispose of in accordance with local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

other information Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

IMO / IMDG NOT REGULATED

ICAO / IATA-DGR NOT REGULATED

China (IECSC) NOT REGULATED

Australia Dangerous Goods

Japan NOT REGULATED

15. REGULATORY INFORMATION

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

Other Regulations None

All of the components in the product are on the following Inventory lists

| Chemical Name | China - Chemicals Regulated under National Standard (GB) | China - List of Dangerous Chemicals |
|---------------|--|---|
| Silicon Metal | - | Present (powder, amorphous) |
| Chemical Name | India - Hazardous and Toxic Chemicals | Japan - ISHL Disclosure cut-off list |
| Cobalt | Present (powder) | Ignitable substance (listed under Metallic powder) $\geq 0.1\%$ Group 2, $>1\%$ in preparations (Group 2 substance under supervision, listed under Cobalt and its inorganic compounds) |

| | | |
|----------------------|---|--|
| Molybdenum | Present (powder) | Ignitable substance (listed under Metallic powder) ≥0.1% |
| Chromium | Present (powder) | ≥0.1% |
| Silicon Metal | - | Ignitable substance (listed under Metallic powder) |
| Nickel | Present (powder) | ≥0.1% |
| Chemical Name | Korea - Substances to Control - Metals | Singapore - Hazardous Substances |
| Cobalt | 1 % cut-off value allowed in mixture | - |
| Chromium | 1 % | - |
| Iron | 1 % | - |
| Nickel | 1 % | - |
| Chemical Name | Thailand - Hazardous Substances | Vietnam - Chemicals |
| Cobalt | - | 5000 kg (powder, listed under table 1) 28220000 ([0282]); 810520 ([0282]) |
| Nickel | - | 1000 kg (inhalable powder) |

All of the components in the product are on the following Inventory lists

| Chemical Name | IECSC - China Inventory of Existing Chemical Substances | Inventory - Japan - Existing and New Chemical Substances (ENCS) | Inventory - Japan - Industrial Safety and Health Law Substances (ISHL) | Inventory - Korea - Existing Chemicals Inventory (KECI/KECL) | Inventory - Philippines - Inventory of Chemicals and Chemical Substances (PICCS) | Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI) |
|---------------|---|---|--|--|--|---|
| Cobalt | Present [13762] | - | >1 % weight (listed under Cobalt and its inorganic compounds) | Present [KE-06060] | Present | Present |
| Molybdenum | Present [25031] | - | - | Present [KE-25427] | Present | Present |
| Chromium | Present [13603] | - | - | Present [KE-05970] | Present | Present |
| Silicon Metal | Present [13814] | - | - | Present [KE-31029] | Present | Present |
| Iron | Present [34355] | - | - | Present [KE-21059] | Present | Present |
| Nickel | Present [25343] | - | - | Present [KE-25818] | Present | Present |

15.2 Chemical Safety Assessment Chemical Safety Assessment not available at product level.

16. OTHER INFORMATION

Global Automotive Declarable Substance List Classifications

| Chemical Name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thresholds |
|---------------|---|--|
| Cobalt | Declarable Substance (FI) | 0.1 % |
| Nickel | Declarable Substance (FI) | 0.1 % |

Prepared By Aimtek

Issuing Date 2019-05-13

Revision date 2019-05-13

Revision note This SDS has been revised in the following section(s)
 Section 1: Identification: Product identifier and chemical identity
 Section 8: Exposure controls and personal protection
 Section 15: Regulatory information
 Section 16: Any other relevant information



SAFETY DATA SHEET

Disclaimer

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End of Safety Data Sheet