

## JA8 Alloy Stick

### CA Group

Chemwatch: 22-1390

Version No: 7.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 3

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S.GHS.AUS.EN

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

### Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | JA8 Alloy Stick   |
| Chemical Name                 | Not Applicable  |
| Synonyms                      | JA1; JA2; JA41; JA5; JA7; JA8; JA13; JA36; WA1; N Metal |
| Chemical formula              | Not Applicable  |
| Other means of identification | Not Available   |

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

|                          |   |
|--------------------------|---|
| Relevant identified uses | Casting alloys for decorative hardware. |
|--------------------------|---|

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

|                         |  |
|-------------------------|--|
| Registered company name | CA Group   |
| Address                 | 32 Industrial Avenue Thomastown VIC 3074 Australia                     |
| Telephone               | +61 3 8301 7100  |
| Fax                     | +61 3 9359 4076  |
| Website                 | <a href="http://www.cagroup.com.au">www.cagroup.com.au</a>             |
| Email                   | <a href="mailto:jmarchese@cagroup.com.au">jmarchese@cagroup.com.au</a> |

### Emergency telephone number

|                                   |   |
|-----------------------------------|---|
| Association / Organisation        | (03) 8301 7100                            |
| Emergency telephone numbers       | (03) 8301 7107 (Business hours 9am – 5pm) |
| Other emergency telephone numbers | 0428 904 506 (After Hours)                |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

#### ChemWatch Hazard Ratings

|              | Min | Max |              |
|--------------|-----|-----|--------------|
| Flammability | 0   |     |              |
| Toxicity     | 3   |     | 0 = Minimum  |
| Body Contact | 2   |     | 1 = Low      |
| Reactivity   | 0   |     | 2 = Moderate |
| Chronic      | 3   |     | 3 = High     |
|              |     |     | 4 = Extreme  |

|                    |   |
|--------------------|---|
| Poisons Schedule   | Not Applicable  |
| Classification [1] | Acute Toxicity (Inhalation) Category 2, Germ Cell Mutagenicity Category 2, Carcinogenicity Category 1B, Reproductive Toxicity Category 1B, Reproductive Toxicity Effects on or via Lactation, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2 |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |

### Label elements

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |    |
|---------------------|---|

|             |        |
|-------------|--------|
| Signal word | Danger |
|-------------|--------|

#### Hazard statement(s)

|        |  |
|--------|--|
| H330   | Fatal if inhaled.  |
| H341   | Suspected of causing genetic defects.                              |
| H350   | May cause cancer.  |
| H360Df | May damage the unborn child. Suspected of damaging fertility.      |
| H362   | May cause harm to breast-fed children.                             |
| H373   | May cause damage to organs through prolonged or repeated exposure. |
| H411   | Toxic to aquatic life with long lasting effects.                   |

#### Precautionary statement(s) Prevention

|      |   |
|------|---|
| P201 | Obtain special instructions before use.             |
| P260 | Do not breathe dust/fume.                           |
| P263 | Avoid contact during pregnancy and while nursing.   |
| P271 | Use only outdoors or in a well-ventilated area.     |
| P280 | Wear protective gloves and protective clothing.     |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment.                   |

#### Precautionary statement(s) Response

|           |  |
|-----------|--|
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P308+P313 | IF exposed or concerned: Get medical advice/ attention.                    |
| P310      | Immediately call a POISON CENTER/doctor/physician/first aider.             |
| P391      | Collect spillage.  |

#### Precautionary statement(s) Storage

|           |  |
|-----------|--|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405      | Store locked up.   |

#### Precautionary statement(s) Disposal

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

### SECTION 3 Composition / information on ingredients

#### Substances

See section below for composition of Mixtures

#### Mixtures

| CAS No    | %[weight] | Name     |
|-----------|-----------|----------|
| 7439-92-1 | >45       | lead     |
| 7440-31-5 | 0-45      | tin      |
| 7440-36-0 | 0-10      | antimony |
| 7440-43-9 | 0-5       | cadmium  |
| 7440-50-8 | 0-1       | copper   |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; \* EU IOELVs available

### SECTION 4 First aid measures

#### Description of first aid measures

|              |  |
|--------------|--|
| Eye Contact  | <ul style="list-style-type: none"> <li>▶ <b>DO NOT attempt to remove particles attached to or embedded in eye .</b></li> <li>▶ Lay victim down, on stretcher if available and pad <b>BOTH</b> eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye.</li> <li>▶ Seek urgent medical assistance, or transport to hospital.</li> </ul>  |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul> <p>In case of burns:</p> <ul style="list-style-type: none"> <li>▶ Quickly immerse affected area in cold running water for 10 to 15 minutes.</li> <li>▶ Bandage lightly with a sterile dressing. Treat for shock if required.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> |
| Inhalation   | <ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>  |

**Ingestion**

Not considered a normal route of entry.  
If poisoning occurs, contact a doctor or Poisons Information Centre.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

- ▶ Chelation with British Anti-Lewisite (BAL) for serious antimony exposures should be employed.
- ▶ Dialyse as needed. The role of exchange diffusion is not clear.
- ▶ Be sure to monitor for dysrhythmias.

[Ellenhorn and Barceloux: Medical Toxicology]

Copper, magnesium, aluminium, antimony, iron, manganese, nickel, zinc (and their compounds) in welding, brazing, galvanising or smelting operations all give rise to thermally produced particulates of smaller dimension than may be produced if the metals are divided mechanically. Where insufficient ventilation or respiratory protection is available these particulates may produce "metal fume fever" in workers from an acute or long term exposure.

- ▶ Onset occurs in 4-6 hours generally on the evening following exposure. Tolerance develops in workers but may be lost over the weekend. (Monday Morning Fever)
- ▶ Pulmonary function tests may indicate reduced lung volumes, small airway obstruction and decreased carbon monoxide diffusing capacity but these abnormalities resolve after several months.
- ▶ Although mildly elevated urinary levels of heavy metal may occur they do not correlate with clinical effects.
- ▶ The general approach to treatment is recognition of the disease, supportive care and prevention of exposure.
- ▶ Seriously symptomatic patients should receive chest x-rays, have arterial blood gases determined and be observed for the development of tracheobronchitis and pulmonary edema.

[Ellenhorn and Barceloux: Medical Toxicology]

- ▶ Gastric acids solubilise lead and its salts and lead absorption occurs in the small bowel.
- ▶ Particles of less than 1 µm diameter are substantially absorbed by the alveoli following inhalation.
- ▶ Lead is distributed to the red blood cells and has a half-life of 35 days. It is subsequently redistributed to soft tissue & bone-stores or eliminated. The kidney accounts for 75% of daily lead loss; integumentary and alimentary losses account for the remainder.
- ▶ Neurasthenic symptoms are the most common symptoms of intoxication. Lead toxicity produces a classic motor neuropathy. Acute encephalopathy appears infrequently in adults. Diazepam is the best drug for seizures.
- ▶ Whole-blood lead is the best measure of recent exposure; free erythrocyte protoporphyrin (FEP) provides the best screening for chronic exposure. Obvious clinical symptoms occur in adults when whole-blood lead exceeds 80 µg/dL.
- ▶ British Anti-Lewisite is an effective antidote and enhances faecal and urinary excretion of lead. The onset of action of BAL is about 30 minutes and most of the chelated metal complex is excreted in 4-6 hours, primarily in the bile. Adverse reaction appears in up to 50% of patients given BAL in doses exceeding 5 mg/kg. CaNa2EDTA has also been used alone or in concert with BAL as an antidote. D-penicillamine is the usual oral agent for mobilisation of bone lead; its use in the treatment of lead poisoning remains investigational. 2,3-dimercapto-1-propanesulfonic acid (DMPS) and dimercaptosuccinic acid (DMSA) are water soluble analogues of BAL and their effectiveness is undergoing review. As a rule, stop BAL if lead decreases below 50 µg/dL; stop CaNa2EDTA if blood lead decreases below 40 µg/dL or urinary lead drops below 2 mg/24hrs.

[Ellenhorn & Barceloux: Medical Toxicology]

**BIOLOGICAL EXPOSURE INDEX - BEI**

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

| Determinant                     | Index   | Sampling Time          | Comments |
|---------------------------------|---|------------------------|----------|
| 1. Lead in blood                | 30 µg/100 ml                                      | Not Critical           |          |
| 2. Lead in urine                | 150 µg/gm creatinine                              | Not Critical           | B        |
| 3. Zinc protoporphyrin in blood | 250 µg/100 ml erythrocytes OR 100 µg/100 ml blood | After 1 month exposure | B        |

B: Background levels occur in specimens collected from subjects **NOT** exposed.

**SECTION 5 Firefighting measures****Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.
- ▶ **Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.**

**Special hazards arising from the substrate or mixture****Fire Incompatibility**

None known.

**Advice for firefighters**

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul> <p>Slight hazard when exposed to heat, flame and oxidisers.</p> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered a significant fire risk, however containers may burn.</li> </ul> <p>Decomposition may produce toxic fumes of:<br/>metal oxides<br/>May emit poisonous fumes.<br/>May emit corrosive fumes.<br/>Will not burn, but heat produces highly toxic fumes/vapours.</p>   |
| <b>HAZCHEM</b>               | Not Applicable  |

**SECTION 6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Continued...

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|                     |   |
|---------------------|---|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Secure load if safe to do so.</li> <li>▶ Bundle/collect recoverable product.</li> <li>▶ Collect remaining material in containers with covers for disposal.</li> </ul>  |
| <b>Major Spills</b> | <p>If molten:</p> <ul style="list-style-type: none"> <li>▶ Contain the flow using dry sand or salt flux as a dam.</li> <li>▶ All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated, rust free and approved for such use.</li> <li>▶ Allow the spill to cool before remelting scrap.</li> <li>▶ Minor hazard.</li> <li>▶ Clear area of personnel.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear physical protective gloves e.g. Leather.</li> <li>▶ Contain spill/secure load if safe to do so.</li> <li>▶ Bundle/collect recoverable product and label for recycling.</li> <li>▶ Collect remaining product and place in appropriate containers for disposal.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

|                          |  |
|--------------------------|--|
| <b>Safe handling</b>     | <p>Avoid generating and breathing dust.</p> <ul style="list-style-type: none"> <li>▶ Limit all unnecessary personal contact.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Atmosphere should be checked against exposure standards</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Use good occupational work practice.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store away from incompatible materials.</li> </ul>  |

### Conditions for safe storage, including any incompatibilities

|                                |   |
|--------------------------------|---|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Check that containers are clearly labelled</li> <li>▶ Packaging as recommended by manufacturer.</li> </ul>             |
| <b>Storage incompatibility</b> | <p>Avoid storage with oxidisers</p> <ul style="list-style-type: none"> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> </ul> |

## SECTION 8 Exposure controls / personal protection

### Control parameters

#### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

| Source                       | Ingredient | Material name                         | TWA        | STEL          | Peak          | Notes  |
|------------------------------|------------|---------------------------------------|------------|---------------|---------------|--|
| Australia Exposure Standards | lead       | Lead, inorganic dusts & fumes (as Pb) | 0.05 mg/m3 | Not Available | Not Available | Not Available  |
| Australia Exposure Standards | tin        | Tin, metal                            | 2 mg/m3    | Not Available | Not Available | Not Available  |
| Australia Exposure Standards | antimony   | Antimony & compounds (as Sb)          | 0.5 mg/m3  | Not Available | Not Available | Not Available  |
| Australia Exposure Standards | cadmium    | Cadmium and compounds (as Cd)         | 0.01 mg/m3 | Not Available | Not Available | (g) Some compounds in these groups are classified as carcinogenic or as sensitisers. Check individual classification details on the safety data sheet for information on classification. |
| Australia Exposure Standards | copper     | Copper, dusts & mists (as Cu)         | 1 mg/m3    | Not Available | Not Available | Not Available  |
| Australia Exposure Standards | copper     | Copper (fume)                         | 0.2 mg/m3  | Not Available | Not Available | Not Available  |

### Emergency Limits


| Ingredient | TEEL-1        | TEEL-2        | TEEL-3        |
|------------|---------------|---------------|---------------|
| lead       | 0.15 mg/m3    | 120 mg/m3     | 700 mg/m3     |
| tin        | 6 mg/m3       | 67 mg/m3      | 400 mg/m3     |
| antimony   | 1.5 mg/m3     | 13 mg/m3      | 80 mg/m3      |
| cadmium    | Not Available | Not Available | Not Available |

| Ingredient | TEEL-1  | TEEL-2   | TEEL-3    |
|------------|---------|----------|-----------|
| copper     | 3 mg/m3 | 33 mg/m3 | 200 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH  |
|------------|---------------|---------------|
| lead       | Not Available | Not Available |
| tin        | Not Available | Not Available |
| antimony   | Not Available | Not Available |
| cadmium    | 9 mg/m3       | Not Available |
| copper     | 100 mg/m3     | Not Available |

### Exposure controls

|   |   |
|---|---|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>If risk of inhalation or overexposure exists, wear SAA approved respirator or work in fume hood.</p> |
| <b>Personal protection</b>              |    |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields; or as required,</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.</li> </ul>  |
| <b>Skin protection</b>                  | See Hand protection below   |
| <b>Hands/feet protection</b>            | <p>Wear physical protective gloves, e.g. leather</p> <p>Wear safety footwear.</p>   |
| <b>Body protection</b>                  | See Other protection below  |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Eyewash unit.</li> </ul> <p>Aprons, sleeves, shoulder covers, leggings or spats of pliable flame resistant leather or other suitable materials may also be required in positions where these areas of the body will encounter hot metal.</p>  |

### Respiratory protection

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Silver or grey dull odourless solid; insoluble in water. |  |                |
| <b>Physical state</b>                               | Manufactured   | <b>Relative density (Water = 1)</b>            | Not Available  |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | Not Applicable |
| <b>pH (as supplied)</b>                             | Not Applicable   | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available  | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Applicable   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Applicable   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable   | <b>Oxidising properties</b>                    | Not Available  |

|                           |                |                                  |                |
|---------------------------|----------------|----------------------------------|----------------|
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Applicable |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol)        | Not Applicable |
| Vapour pressure (kPa)     | Not Applicable | Gas group                        | Not Available  |
| Solubility in water       | Immiscible     | pH as a solution (%)             | Not Applicable |
| Vapour density (Air = 1)  | Not Applicable | VOC g/L                          | Not Available  |

## SECTION 10 Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | See section 7   |
| Chemical stability                 | Product is considered stable and hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7   |
| Conditions to avoid                | See section 7   |
| Incompatible materials             | See section 7   |
| Hazardous decomposition products   | See section 5   |

## SECTION 11 Toxicological information

### Information on toxicological effects

|              |  |
|--------------|--|
| Inhaled      | <p>The inhalation of small particles of metal oxide results in sudden thirst, a sweet, metallic foul taste, throat irritation, cough, dry mucous membranes, tiredness and general unwellness. Headache, nausea and vomiting, fever or chills, restlessness, sweating, diarrhoea, excessive urination and prostration may also occur.</p> <p>Inhalation of antimony can cause breathing difficulties and gastrointestinal upset including sore throat, shallow breathing, dizziness, weight loss, gum bleeds and anaemia. Lung swelling and congestion can occur.</p> <p>Inhalation of dusts, generated by the material, during the course of normal handling, may produce toxic effects.</p> <p>Lead fume is toxic and acts as a cumulative poison. Regular blood testing should be considered for workers who are regularly exposed.</p>  |
| Ingestion    | <p>Considered an unlikely route of entry in commercial/industrial environments</p> <p>Not normally a hazard due to physical form of product.</p>   |
| Skin Contact | <p>Skin contact does <b>not</b> normally present a hazard, though it is always possible that occasionally individuals may be found who react to substances usually regarded as inert.</p> <p>Molten material is capable of causing burns.</p>  |
| Eye          | <p>Fumes from welding/brazing operations may be irritating to the eyes.</p>  |
| Chronic      | <p>Repeated or prolonged exposure to antimony and its compounds may produce inflammation of the mouth cavity, dry throat, metallic taste, gum infection, perforation of the nasal septum and throat, laryngitis, headache, difficulty breathing, indigestion, nausea, vomiting, diarrhoea, loss of appetite, anaemia, weight loss, tightness and pain in the chest, sleeplessness, muscular pain and weakness, dizziness, pharyngitis, bronchitis and pneumonia. Degenerative changes of the liver and kidney may occur.</p> <p>Principal routes of exposure include accidental contact with the molten metal and inhalation of fume arising as a consequence of the action of the flame on the rod / wire. Although fume generation rates are generally low, excessive heating of the material, well above its quoted melting point, may result in over-exposure.</p> <p>Metallic dusts generated by the industrial process give rise to a number of potential health problems. The larger particles, above 5 micron, are nose and throat irritants.</p> <p>Lead, in large amounts, can affect the blood, nervous system, heart, glands, immune system and digestive system. Anaemia may occur.</p> <p>Chronic exposure to tin dusts and fume can result in substantial amounts being deposited in the lungs and result in reduced lung function and difficulty breathing.</p> <p>For copper and its compounds (typically copper chloride):</p> <p>Acute toxicity: There are no reliable acute oral toxicity results available. Animal testing shows that skin in exposure to copper may lead to hardness of the skin, scar formation, exudation and reddish changes. Inflammation, irritation and injury of the skin were noted.</p> <p>Repeat dose toxicity: Animal testing shows that very high levels of copper monochloride may cause anaemia.</p> <p>Genetic toxicity: Copper monochloride does not appear to cause mutations in vivo, although chromosomal aberrations were seen at very high concentrations in vitro.</p> <p>Cancer-causing potential: There was insufficient information to evaluate the cancer-causing activity of copper monochloride.</p> |

|                 |   |  |
|-----------------|---|--|
| JA8 Alloy Stick | <b>TOXICITY</b>                                   | <b>IRRITATION</b>  |
|                 | Not Available                                     | Not Available  |
| lead            | <b>TOXICITY</b>                                   | <b>IRRITATION</b>  |
|                 | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>     | Not Available  |
|                 | Inhalation(Rat) LC50; >5.05 mg/l4h <sup>[1]</sup> |  |
| tin             | <b>TOXICITY</b>                                   | <b>IRRITATION</b>  |
|                 | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>     | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                 | Inhalation(Rat) LC50; >4.75 mg/l4h <sup>[1]</sup> | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| antimony        | <b>TOXICITY</b>                                   | <b>IRRITATION</b>  |
|                 | Dermal (rabbit) LD50: >8000 mg/kg <sup>[1]</sup>  | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                 | Inhalation(Rat) LC50; >5.2 mg/l4h <sup>[1]</sup>  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |

JA8 Alloy Stick

|                |  |  |
|----------------|--|--|
|                | Oral (Rat) LD50; 7000 mg/kg <sup>[2]</sup>   |  |
| cadmium        | <b>TOXICITY</b>  | <b>IRRITATION</b>  |
|                | Inhalation(Rabbit) LC50; 0.028 mg/L4h <sup>[1]</sup>   | Not Available  |
|                | Oral (Rat) LD50; 225 mg/kg <sup>[2]</sup>  |  |
| copper         | <b>TOXICITY</b>  | <b>IRRITATION</b>  |
|                | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>  | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                | Inhalation(Rat) LC50; 0.733 mg/l4h <sup>[1]</sup>  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
|                | Oral (Mouse) LD50; 0.7 mg/kg <sup>[2]</sup>  |  |
| <b>Legend:</b> | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |  |

|               |   |
|---------------|---|
| <b>LEAD</b>   | WARNING: Lead is a cumulative poison and has the potential to cause abortion and intellectual impairment to unborn children of pregnant workers.  |
| <b>TIN</b>    | No significant acute toxicological data identified in literature search.  |
| <b>COPPER</b> | WARNING: Inhalation of high concentrations of copper fume may cause "metal fume fever", an acute industrial disease of short duration. Symptoms are tiredness, influenza like respiratory tract irritation with fever.<br>for copper and its compounds (typically copper chloride):<br><b>Acute toxicity:</b> There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. Symptom of the hardness of skin, an exudation of hardness site, the formation of scar and reddish changes were observed on application sites in all treated animals. Skin inflammation and injury were also noted. In addition, a reddish or black urine was observed in females at 2,000, 1,500 and 1,000 mg/kg bw. |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ✓ | Carcinogenicity          | ✓ |
| Skin Irritation/Corrosion         | ✗ | Reproductivity           | ✓ |
| Serious Eye Damage/Irritation     | ✗ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✓ |
| Mutagenicity                      | ✓ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

| JA8 Alloy Stick | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|-----------------|---------------|--------------------|-------------------------------|-----------------|---------------|
|                 | Not Available | Not Available      | Not Available                 | Not Available   | Not Available |
| lead            | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                 | NOEC(ECx)     | Not Available      | Crustacea                     | 0.051mg/L       | 5             |
|                 | LC50          | 96h                | Fish                          | 1.17mg/l        | 4             |
|                 | EC50          | 72h                | Algae or other aquatic plants | 1.191mg/L       | 4             |
|                 | EC50          | 96h                | Algae or other aquatic plants | 0.282-0.864mg/l | 4             |
| tin             | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                 | Not Available | Not Available      | Not Available                 | Not Available   | Not Available |
| antimony        | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                 | EC50          | 96h                | Algae or other aquatic plants | 0.61mg/l        | 2             |
|                 | NOEC(ECx)     | 2160h              | Algae or other aquatic plants | 0.032mg/l       | 2             |
|                 | LC50          | 96h                | Fish                          | 0.93mg/l        | 2             |
|                 | EC50          | 72h                | Algae or other aquatic plants | >2.4mg/l        | 2             |
|                 | EC50          | 48h                | Crustacea                     | 423.45mg/l      | 2             |
| cadmium         | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                 | EC50(ECx)     | 24h                | Algae or other aquatic plants | 0.001mg/L       | 4             |
|                 | LC50          | 96h                | Fish                          | 0.003mg/l       | 4             |
|                 | EC50          | 72h                | Algae or other aquatic plants | >6mg/l          | 4             |
|                 | EC50          | 48h                | Crustacea                     | 0.54-0.62mg/l   | 4             |
|                 | EC50          | 96h                | Algae or other aquatic plants | 0.049-0.162mg/l | 4             |

|                | Endpoint  | Test Duration (hr) | Species                       | Value           | Source |
|----------------|---|--------------------|-------------------------------|-----------------|--------|
| copper         | EC50(ECx)   | 24h                | Algae or other aquatic plants | <0.001mg/L      | 4      |
|                | LC50  | 96h                | Fish                          | ~0.005mg/L      | 4      |
|                | EC50  | 72h                | Algae or other aquatic plants | 0.011-0.017mg/L | 4      |
|                | EC50  | 48h                | Crustacea                     | <0.001mg/L      | 4      |
|                | EC50  | 96h                | Algae or other aquatic plants | 0.03-0.058mg/l  | 4      |
| <b>Legend:</b> | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                    |                               |                 |        |

**Persistence and degradability**

| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|------------|---------------------------------------|---------------------------------------|
|            | No Data available for all ingredients | No Data available for all ingredients |

**Bioaccumulative potential**

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**Mobility in soil**

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**SECTION 13 Disposal considerations**

**Waste treatment methods**

|                              |  |
|------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Bury residue in an authorised landfill.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |
|------------------------------|--|

**SECTION 14 Transport information**

**Labels Required**

|                  |   |
|------------------|---|
| Marine Pollutant |  |
| HAZCHEM          | Not Applicable  |

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group         |
|--------------|---------------|
| lead         | Not Available |
| tin          | Not Available |
| antimony     | Not Available |
| cadmium      | Not Available |
| copper       | Not Available |

Transport in bulk in accordance with the ICG Code

| Product name | Ship Type     |
|--------------|---------------|
| lead         | Not Available |
| tin          | Not Available |
| antimony     | Not Available |
| cadmium      | Not Available |
| copper       | Not Available |

**SECTION 15 Regulatory information**



**Safety, health and environmental regulations / legislation specific for the substance or mixture****lead is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australian Inventory of Industrial Chemicals (AIIC)  
 Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

**tin is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)

**antimony is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

**cadmium is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring  
 Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

**copper is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 Australian Inventory of Industrial Chemicals (AIIC)

**National Inventory Status**

| National Inventory                              | Status  |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                    | Yes   |
| Canada - NDSL                                   | No (lead; tin; antimony; cadmium; copper)   |
| China - IECSC                                   | Yes   |
| Europe - EINEC / ELINCS / NLP                   | Yes   |
| Japan - ENCS                                    | No (lead; tin; antimony; cadmium; copper)   |
| Korea - KECI                                    | Yes   |
| New Zealand - NZIoC                             | Yes   |
| Philippines - PICCS                             | Yes   |
| USA - TSCA                                      | Yes   |
| Taiwan - TCSI                                   | Yes   |
| Mexico - INSQ                                   | Yes   |
| Vietnam - NCI                                   | Yes   |
| Russia - FBEPH                                  | Yes   |
| <b>Legend:</b>                                  | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

**SECTION 16 Other information**

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 10/12/2021 |
| <b>Initial Date</b>  | 25/01/2010 |

**SDS Version Summary**

| Version | Date of Update | Sections Updated   |
|---------|----------------|--|
| 6.1     | 01/11/2019     | One-off system update. NOTE: This may or may not change the GHS classification |
| 7.1     | 10/12/2021     | Classification change due to full database hazard calculation/update.          |

**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AIC: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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