



THE HARRIS PRODUCTS GROUP

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Safety Data Sheet

1 IDENTIFICATION

Product identifier

Trade name: Nickel Bronze Bare Rod – Nickel Silver Bare Rod

Product size: Bare Rods

Synonyms: Nickel Silver, Nickel Bronze Brazing Alloy - Bare Rod

Product Use: Metal Brazing Alloy

Other means of identification: #NICKELBRZ63D750, B043CFSHIM

SDS Number: 0107-2

Recommended use and restriction on use

Recommended use: Metal Brazing Alloy

Restrictions on use: No relevant information available

Manufacturer/Importer/Supplier/Distributor information

Importer:

Harris Products Group

14 Queensland Rd

Darra, QLD, Australia 4076

(07) 33753670

Website: <http://www.ausweld.com.au>

Safety Data Sheet Questions: sales@hgea.com.au

Poisons Information Centre/Helpline (24 hours) Australia 13 11 26

2 HAZARD(S) IDENTIFICATION

GHS classification of the substance/mixture.

Classified according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

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

EMERGENCY OVERVIEW: The product is sold in solid form.

HAZAD RATINGS

7440-66-6 Zinc Powder/dust (stabilised)

Hazardous to the aquatic environment (acute) – category 1

Hazardous to the aquatic environment (chronic) – category 1

7440-02-0 Nickel

Carcinogenicity – category 2

Specific target organ toxicity (repeated exposure) – category 1

Skin sensitisation – category 1



GHS07



GHS08

Poisons Schedule: Not Applicable

Label Elements**GHS label elements****Signal Word** **DANGER****Precautionary Statement**

- H317** May cause an allergic skin reaction
H319 Causes serious eye irritation
H351 Suspected of causing cancer
H335 May cause respiratory irritation
H372 Causes damage to organs through prolonged use

Prevention

- P201** Obtain special instructions before use.
P260 Do not breath in dust, gas, mist, fumes, vapours, sprays
P280 Wear face protection, protective gloves and clothing, eye protection.
P281 Use protective equipment as needed.

Response

- P308+P313** If concerned about exposure: Get medical advice
P363 Wash contaminated protective clothing before using again
P302+P352 If contact with skin: wash with soap and water
P314 If feel unwell: get medical advice

Storage

- P405** Lock up storage

Disposal

- P501** Dispose in accordance with local authority regulations

3 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture: consisting of the following components.

Dangerous components:		
CAS	Name	Proportion
7440-50-8	copper	46-55%
7440-66-6	zinc	45-50%
7439-96-5	manganese	1.5%
1309-37-1	iron	1.0%
7440-02-0	nickel	7-13%
7440-21-3	silicon	0.04-0.50%

Composition comments:

The term "Dangerous Components" should be interpreted as a term defined in Hazard Communication standards and does not necessarily imply the existence of a hazard. The product may contain additional nonhazardous ingredients or may form additional compounds under the condition of use. Refer to Sections 2 and 8 for more information.

4 First Aid Measures**Skin Exposure**

If fumes generated by brazing operations involving these products contaminate the skin, begin decontamination with running water. If molten material contaminates the skin, immediately begin

decontamination with cold, running water. Minimum flushing is for 15 minutes. Victim must seek medical attention if any adverse reaction occurs.

Eye Exposure

If fumes generated by brazing operations involving these products enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek immediate medical attention if any adverse effect occurs.

Inhalation

If fumes generated by brazing operations involving these products are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Ingestion

Ingestion is not a likely route of exposure for the rods. If the flux is swallowed, **CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING**, unless directed by medical personnel. Have victim rinse mouth with water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

Medical conditions aggravated from exposure

Skin, respiratory disorders, kidney and liver disorders may be aggravated by prolonged over-exposures to the dusts or fumes generated by these products.

Recommendations to physicians

Treat symptoms and eliminate overexposure. Call for medical aid. Employ first aid techniques recommended by the Australian Red Cross

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

As shipped, the product will not burn. In case of fire in the surroundings: use appropriate extinguishing agent. For metal fires: Use specific agents only.

Flash Point: Not flammable

Auto ignition Temperature: Not flammable

For safety reasons unsuitable extinguishing agents: For metal fires: Use specific agents only.

Fire Extinguishing Materials: Water spray, Halon, Dry Chemical, Carbon Dioxide, Foam.

Special hazards arising from the substance or mixture

Infrared radiation from flame or hot metal can ignite combustibles and flammable products.

Advice for firefighters

Special fire fighting procedures:

Use standard firefighting procedures and consider the hazards of other involved materials.

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Unusual Fire and Explosion Hazards: When involved in a fire, these products may generate irritating fumes and a variety of metal compounds. The molten material can present a significant thermal hazard to firefighters.

Additional information

Read and understand the Work Safe Australia Code of Practice on Welding Processes and "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" before using this product. Section 274 of the Work Health and Safety Act (the WHS Act.)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8.

Environmental precautions:

Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up.

Clean up spills immediately, observing precautions in the personal protective equipment in Section 8. Avoid generating dust. Prevent product from entering any drains, sewers or water sources.

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

7 Handling and storage**Handling:****Precautions for safe handling**

Prevent formation of dust.

Ensure good ventilation/exhaustion at the workplace.

Any deposit of dust which cannot be avoided must be regularly removed. Prevent formation of dust. Ensure good ventilation/exhaustion at the workplace. Any deposit of dust which cannot be avoided must be regularly removed.

Conditions for safe storage, including any incompatibilities

Store in closed original container in a dry place. Store away from incompatible materials. Store in accordance with local/regional/national regulations.

8 Exposure controls/personal protection**Exposure controls**

Source	CAS No.	Material	TWA mg/m ³	STEL mg/m ³
Australia Exposure Standards	7440-50-8	Copper (dust, mists Cu)	1	
Australia Exposure Standards	7440-50-8	Copper (fume)	0.2	
Australia Exposure Standards	7440-02-0	Nickel, Elemental metal	1	
Australia Exposure Standards	7439-96-5	Manganese, Dust & Compounds	1	
Australia Exposure Standards	7439-96-5	Manganese (fume)	1	3
Australia Exposure Standards	1309-37-1	Iron (dust & fume)	5	
Australia Exposure Standards	7440-21-3	Silicon (silicon (a))	10	
Australia Exposure Standards	7440-66-6	Zinc oxide (fume)	5	10
Australia Exposure Standards	7440-66-6	Zinc oxide (dust)	10	
Australia Exposure Standards		Welding fumes (not otherwise classified)	5	

Engineering Control**Copper Dusts and Mists:**

50 mg/m³ or less – A high efficiency particulate filter respirator with a full face piece or a supplied air respirator.

2000 mg/m³ or less – A type C supplied air respirator with full face piece operated in pressure demand mode.

Greater than 2000 mg/m³ or entry and escape from unknown concentrations – Self contained breathing apparatus with full face piece operated in pressure demand or other positive pressure mode.

Silicon

5 mg/m³ - Silicon dust appears to have little adverse effect on the lungs and is not implicated in the genesis of organic disease or in the production of toxic effects.

For aluminium oxide and pyrophoric grades of aluminium: Twenty-seven-year experience with aluminium oxide dust (particle size 96% 1,2 µm) without adverse effects either systemically or on the lung, and at a calculated concentration equivalent to 2 mg/m³ over an 8-hour shift has led to the current recommendation of the TLV-TWA. The limit should also apply to aluminium pyro powders whose toxicity is reportedly greater than aluminium dusts and should be protective against lung changes. For aluminium oxide: The experimental and clinical data indicate that aluminium oxide acts as an "inert" material when inhaled and seems to have little

effect on the lungs nor does it produce significant organic disease or toxic effects when exposures are kept under reasonable control. The concentration of dust, for application of respirable dust limits, is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative log-normal function with a median aerodynamic diameter of 4.0 μm (+-) 0.3 μm and with a geometric standard deviation of 1.5 μm (+-) 0.1 μm , i.e. Generally, less than 5 μm .

Zinc Oxide Fumes - Zinc oxide intoxication is characterised by general depression, shivering, headache, thirst, colic and diarrhoea. Exposure to the fume may produce metal fume fever characterised by chills, muscular pain, nausea and vomiting.

Welding Fumes - Local exhaust ventilation systems should be designed to provide a minimum capture velocity at the fume source of 0.5m/second away from the welder. Inlets and outlets should be kept clear at all times. Air from a local exhaust ventilation system should not be re-circulated into the workroom. This air should be discharged into the outside air away from other work areas and away from air conditioning inlets or compressors supplying breathing air.

Examples of local exhaust ventilation suitable for welding operations include:

Fixed installations, such as side-draught or down-draught tables and benches, and partially or completely enclosed booths. Portable installations, such as movable hoods that are attached to edible ducts.

Low volume high velocity fume extractors attached directly to the welding gun.

Respiratory Protective Devices - Respirators should be fitted for each person individually and if one is to be used by another operator, it must be disinfected and re fitted before use. The tightness of all connections and the condition of the face piece, headbands and valves should be checked before each use. Air supplied respirators may be required in some situations, e.g. confined spaces. For further information, refer to: AS/NZS 1716: *Respiratory protective devices* and be selected in accordance with AS/NZS 1715: *Selection, use and maintenance of respiratory protective equipment*.

Personal protective equipment:

Respiratory Measures

Use respirable fume respiratory or air supplied respirator when in confined space or local exhaust does not keep exposure below recommended exposure limit

Ventilation

Use enough ventilation, local exhaust at the the flame or heat source, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the operator to keep his head out of the fumes. Keep exposure as low as possible.

Breathing equipment:

Keep your head out of fumes. Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area. An approved respirator should be used unless exposure assessments are below applicable exposure limits. Particulate mask should filter at least 99% of airborne particles.

Protection of hands:



Thermally-protective gloves.

Suitable gloves can be recommended by the glove supplier.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Eye protection:



Wear helmet, glasses or face shield with filter lens protective screens, flash goggles to shield others. Wear glasses or face shield with appropriate shading for brazing operations.

Body protection:

Protective work clothing

Limitation and supervision of exposure into the environment No special requirements.**Risk management measures:** For maximum safety: Be certified for and wear a respirator at all times when welding and brazing.**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:****Form:** Solid Material - Rod

Does not mix with water

Odour	Odourless	Viscosity	Not Applicable
Odour Threshold	Not Determined	Molecular weight (g/mol)	Not Applicable
pH	Not Applicable	Taste	Not Available
Melting Range (C°)	600	Vapour Pressure (kPa)	Not Available
Boiling point & boiling range	Not Applicable	pH as a solution	Not Applicable
Flash point	Not Applicable	Gas group	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability (solid, gas)	Not Available	Oxidising properties	Not Available
Upper/lower flammability or explosive limit	Not Applicable	Surface tension	Not Applicable
Vapour pressure	Not Applicable	Volatile Component (%vol)	Negligible
Vapour density	Not Applicable	Decomposition temperature	>600
Relative density	Not Available	Solubility	Insoluble

10 Stability and reactivity**Reactivity:** The product is non-reactive under normal conditions of use, storage and transport.**Chemical stability:** Product is considered stable under normal temperatures and pressures.**Conditions to avoid:** Avoid heat or contamination.

Store in original containers if possible

Store in a cool, dry, well ventilated area

Use suitable containers – manufacturers packaging, polyethylene container.

Make sure all containers are labelled and leak proof.

Incompatible materials: No relevant information available**Hazardous decomposition products:** No decomposition if used and stored according to specifications.

Brazing fumes and gases cannot be classified simply. The composition and products: quantity of both are dependent upon the metal being joined, the process, procedure and filler metals and flux used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being joined (such as paint, plating, or galvanizing), the number of operators and the volume of the worker area, the quality and amount of ventilation, the position of the operator's head with respect to the fume and fumes from chemical fluxes used in some brazing operations. When the wire or rod is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 3, plus those from the base metal and coating, etc., as noted above.

11 Toxicological information

Acute Toxicity

Ingestion:

Unlikely route of exposure.

Soluble **zinc** salts produce irritation and corrosion of the alimentary tract (in a manner similar to copper salts) with pain, vomiting, etc. Delayed deaths have been ascribed to inanition (weakness and extreme weight loss resulting from prolonged and severe food insufficiency) following severe strictures of the oesophagus, and pylorus. Vomiting, abdominal cramps, and diarrhoea, in several cases with blood, have been observed after ingestion of zinc sulphate. Several cases of gastrointestinal disturbances have been reported after ingestion of zinc sulphate. A significant reduction in erythrocyte superoxide dismutase activity (47% decrease), haematocrit, and serum ferritin, compared to pre-treatment levels, occurred in female subjects who received supplements (as capsules) of 50 mg zinc/day as zinc gluconate for 10 weeks.

Numerous cases of a single oral exposure to high levels of copper have been reported. Consumption of **copper**-contaminated drinking water has been associated with mainly gastrointestinal symptoms including nausea, abdominal pain, vomiting and diarrhoea. A metallic taste, nausea, vomiting and epigastric burning often occur after ingestion of copper and its derivatives. The vomitus is usually green/blue and discolours contaminated skin.

Accidental ingestion of the material may be damaging to the health of the individual.

Inhalation:

Inhalation of fumes may aggravate a pre-existing respiratory condition such as asthma, bronchitis, emphysema. **Copper** poisoning following exposure to copper dusts and fume may result in headache, cold sweat and weak pulse. Capillary, kidney, liver and brain damage are the longer term manifestations of such poisoning. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Inhalation hazard is increased at higher temperatures.

Inhalation of freshly formed **zinc** oxide particles sized below 1.5 microns and generally between 0.02 to 0.05 microns may result in "metal fume fever", with symptoms resembling influenza. Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Regular exposure to nickel fume, as the oxide, may result in "metal fume fever" a sometimes debilitating upper respiratory tract condition resembling influenza. Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in closed or poorly ventilated areas. Inhalation of freshly formed metal oxide particles sized below 1.5 microns and generally between 0.02 to 0.05 microns may result in "metal fume fever".

Skin Contact: Exposure to **copper**, by skin, has come from its use in pigments, ointments, ornaments, jewellery, dental amalgams and IUDs (intra-uterine devices), and in killing fungi and algae. Although copper is used in the treatment of water in swimming pools and reservoirs, there are no reports of toxicity from these applications. Reports of allergic contact dermatitis following contact with copper and its salts have appeared in the literature, however the exposure concentrations leading to any effect have been poorly characterized. In studies, the possible contamination with nickel (which causes allergies definitely) has been raised as a reason for any reactions observed. Entry into the blood-stream, via for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Skin contact with the material may be harmful; systemic effects may result following absorption.

Eye Contact: **Copper** salts, in contact with the eye, may produce inflammation of the conjunctiva, or even ulceration and cloudiness of the cornea. If applied to the eyes, this material causes severe eye damage.

CHRONIC HEALTH EFFECTS

Principal routes of exposure include accidental contact with the molten metal and inhalation of **fumes** 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.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

Copper has fairly low toxicity. Some rare hereditary conditions (Wilson disease or hepatolenticular degeneration) can lead to accumulation of copper on exposure, causing irreversible damage to a variety of organs (liver, kidney, CNS, bone, vision) and lead to death. There may be anaemia and cirrhosis of the liver. 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. Smaller particles however, may cause lung deterioration. Particles of less than 1.5 micron can be trapped in the lungs and, dependent on the nature of the particle, may give rise to further serious health consequences.

Additional toxicological information:

Organic polymers may be used in the manufacture of various welding consumables. Overexposure to their decomposition by products may result in a condition known as polymer fume fever.

Polymer fume fever usually occurs within 4 to 8 hours of exposure with the presentation of flu like symptoms, including mild pulmonary irritation with or without an increase in body temperature. Signs of exposure can include an increase in white blood cell count. Resolution of symptoms typically occurs quickly, usually not lasting longer than 48 hours.

Acute effects (acute toxicity, irritation and corrosivity):

Harmful if swallowed.

Causes serious eye damage.

Irritating to skin.

Repeated Dose Toxicity: Danger of very serious irreversible effects.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Causes damage to the respiratory system through prolonged or repeated exposure.

Route of exposure: Inhalation.

Aspiration hazard Based on available data, the classification criteria are not met.

MIXTURE OF CHEMICALS

CHEMICAL	TOXICITY	IRRITATION
Brazing Alloys	Not Available	Not Available
Copper	Dermal (rat) LD50: >2000 mg/kg [1] Inhalation (rat) LC50: 0.733 mg/l/4hr [1] Inhalation (rat) LC50: 1.03 mg/l/4hr [1] Inhalation (rat) LC50: 1.67 mg/l/4hr [1] Oral (rat) LD50: 300-500 mg/kg[1]	Nil Reported
Nickel	Oral (rat) LD50: 5000 mg/kg[2]	Not Available
Manganese	Oral (rat) LD50: >2000 mg/kg[1]	Eye (rabbit): 500 mg/24h – mild Skin (rabbit): 500 mg/24h - mild
Zinc	Dermal (rabbit) LD50: 1130 mg/kg[2] Oral (rat) LD50: >2000 mg/kg[1]	Not Available
Silicon	Dermal (rabbit) LD50: >5000 mg/kg[1] Oral (rat) LD50: 3160 mg/kg[2]	Nil Reported

Fumes

Nickel Fumes	Oral (rat) LD50: 5000 mg/kg[2]	Not Available
Welding Fumes	Not Available	Not Available

Copper Fumes	Dermal (rat) LD50: >2000 mg/kg [1] Inhalation (rat) LC50: 0.733 mg/l/4hr [1] Inhalation (rat) LC50: 1.03 mg/l/4hr [1] Inhalation (rat) LC50: 1.67 mg/l/4hr [1] Oral (rat) LD50: 300-500 mg/kg[1]	Not Available
Zinc Oxide Fumes	Oral (rat) LD50: >5000 mg/kg [1]	Eye (rabbit): 500 mg/24h Mild Skin (rabbit): 500 mg/24h Mild

12 Ecological information

Ingredient	96 hr LC50 Fish, mg/l	48 hr EC50 Crustacea, mg/l	ErC50 Algae, mg/l
Copper - (7440-50-8)	200mg/L	0.001mg/L	0.013335mg/L
Zinc – (7440-66-6)	0.00272mg/L	0.04mg/L	0.106mg/L
Manganese (7439-96-5)	>3.6mg/L	> 1.6mg/L	2.8mg/L
Nickel - (7440-02-0)	0.0000475mg/L	0.00513mg/L	0.0035mg/L
Iron – (1309-37-1)	Not Available	Not Available	Not Available
Silicon - (7440-21-3)	Not Available	Not Available	ca.250mg/L
Welding Fumes	Not Available	Not Available	Not Available
Copper Fumes	Not Available	Not Available	Not Available
Zinc Oxide Fumes	Not Available	Not Available	Not Available
Nickel Fumes	Not Available	Not Available	Not Available

Copper, Zinc, Nickel, Tin, Silicon

Toxicity

May cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

Persistence and degradability

There is no data available on the preparation itself.

Bioaccumulative potential

Not Measured

Mobility in soil

No data available.

PBT and vPvB assessment This product contains no PBT/vPvB chemicals.

Other adverse effects

No data available.

13 Disposal considerations

Waste treatment methods

Containers may still present a chemical hazard/ danger when empty.

Return to supplier for reuse/ recycling if possible.

Product/Packaging Disposal

If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

Where possible retain label warnings and SDS and observe all notices pertaining to the product.

DO NOT allow wash water from cleaning or process equipment to enter drains.

It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Where in doubt contact the responsible authority.

Recycle wherever possible or consult manufacturer for recycling options.

Consult State Land Waste Management Authority for disposal.

Bury residue in an authorised landfill.

Recycle containers if possible, or dispose of in an authorised landfill.

14 Transport Information

HAZCHEM	Not Applicable
UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not Regulated
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
Packing group DOT, ADR, IMDG, IATA	Not Regulated
Environmental hazards: Marine pollutant:	Not Applicable
Special precautions for user	Not Applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not Applicable.
UN "Model Regulation":	Not Regulated.

15 Regulatory information

Product Name: Nickel Bronze Bare Rod – Nickel Silver Bare Rod

Refer to the Australian Inventory of Chemical Substances – AICS at <https://www.nicnas.gov.au/chemicals-on-AICS#main>

Poison schedule: Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). <https://www.legislation.gov.au/Details/F2016L01638>

Classifications: Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

16 Other information

References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons

Australian Code for the Transport of Dangerous Goods by Road & Rail.
Modell Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work, Australia

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

WELDING (1): Due to the diversity of welding techniques, processes, materials used, nature of the surface being welded and the presence of contaminants, the fumes & gases associated with welding will vary in composition and quantity. When assessing a welding process, the toxic fumes generated may not only be associated with the parent metal, filler wire or electrode. The welding/cutting arc may generate nitrogen oxides, carbon monoxide & other gases, whilst UV radiation emitted from some arcs generates ozone. Ozone may irritate mucous membranes and cause pulmonary oedema & haemorrhage. Shielding gases (e.g. carbon dioxide and inert gases i.e. argon and helium) in high concentrations, in confined spaces, may reduce oxygen in the atmosphere to dangerous levels, resulting in possible asphyxiation.

WELDING (2): In addition to complying with individual exposure standards for specific contaminants, where current manual welding processes are used, the fume concentration inside the welder's helmet should not exceed 5 mg/m³ (unless otherwise classified) when collected in accordance with Australian Standard AS 3853.1: Fume from welding and allied processes - Guide to methods for the sampling and analysis of particulate matter and AS 3853.2: Fume from welding and allied processes - Guide to methods for the sampling and analysis of gases. Airway irritation and metal fume fever are the most common acute effects from welding fumes. Reported to cause reduced sperm quality in welders.

WELDING (3): Other gases and fumes associated with welding processes include: Inert shielding gases (e.g. argon, carbon dioxide, helium) which may reduce the atmospheric oxygen content in poorly ventilated areas. UV-radiation and Infra-Red radiation may decompose chlorinated degreasing agents to form highly toxic and irritating phosgene gas. This may occur if a metal has been degreased but inadequately dried or when vapours from a nearby degreasing bath enter the welding zone.

WELDING (4): Welding fumes may contain a wide variety of chemical contaminants, including oxides and salts of metals and other compounds which may be generated from electrodes, filler wire, flux materials and from the welded material (e.g. painted surfaces). Welding stainless-steel and its alloys generates nickel and chromium (VI) compounds. Welding fumes are retained in the lungs. Sparingly soluble compounds may be released slowly from the lungs. Welding fume is classified as possibly carcinogenic to humans (IARC Group 2B).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Disclaimer:

We urge each end user and recipient of this SDS to study it carefully. If necessary, consult an industrial hygienist or other expert to understand this information and safeguard the environment and protect workers from potential hazards associated with the handling or use of this product. Harris Products Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

WARNING: PRODUCT COMPONENTS PRESENT HEALTH AND SAFETY HAZARDS. READ AND UNDERSTAND THIS SAFETY DATA SHEET (S.DS.). ALSO, FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

The information contained herein relates only to the specific product. If the product is combined with other materials, all component properties must be considered. **BE SURE TO CONSULT THE LATEST VERSION OF THE SDS. SAFETY DATA SHEETS ARE AVAILABLE FROM HARRIS PRODUCTS GROUP** Harris Products Group, HGE PTY LTD, Brisbane | Melbourne | Perth | New Zealand, 14 Queensland Rd, Darra, QLD 4076, Phone: (07) 3375 3670 | Fax: (07) 3375 3620, Email: sales@hgea.com.au, www.harrisproductsgroup.com.au,

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[End of SDS]