

CIGWELD COMWELD 965 SILVER SOLDER

Chemwatch Material Safety Data Sheet
Issue Date: 31-Oct-2006
NC317ECP

CHEMWATCH 45401
Revision No:2
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CIGWELD COMWELD 965 SILVER SOLDER

SYNONYMS

"Product Code: 322320, 322321, 322324, 322221", "Soft Silver Solder"

PRODUCT USE

Silver bearing solder type alloy which forms non- toxic and stain resistant joints with oxy- acetylene, blow torch, soldering iron or gun. Used to join copper, bronze, brass, nickel, Monel, steel and stainless steel. Not suitable for use with aluminium and magnesium. This alloy is free from lead, zinc and cadmium.

SUPPLIER

Company: CIGWELD Pty Ltd
Address:
71 Gower Street
Preston
VIC 3072
AUS
Telephone: (03) 9474 7400
Telephone: 1300 654 674
Emergency Tel: (03) 9474 7400

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

None under normal operating conditions.

SAFETY

Avoid contact with skin.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
solder alloy, consisting of		
tin	7440-31-5	>60 ^
silver	7440-22-4	<10 ^
flux core composed of		
ammonium chloride	12125-02-9	<10 ^
unknown fluorides		<10
During use product generates		
fluoride fume	16984-48-8	

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Section 4 - FIRST AID MEASURES

SWALLOWED

Not considered a normal route of entry.

EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

In case of burns:

- Quickly immerse affected area in cold running water for 10 to 15 minutes.
- Bandage lightly with a sterile dressing. Treat for shock if required.
- Lay patient down. Keep warm and rested.
- Transport to hospital, or doctor.

INHALED

For massive exposures:

- If dusts, vapours, aerosols, fumes or combustion products are inhaled, remove from contaminated area.
- Lay patient down.
- Keep warm and rested.
- Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- If victim is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth.
- Transport to hospital, or doctor, urgently.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to fluorides:

- Fluoride absorption from gastro-intestinal tract may be retarded by calcium salts, milk or antacids.
- Fluoride particulates or fume may be absorbed through the respiratory tract with 20-30% deposited at alveolar level.
- Peak serum levels are reached 30 mins. post-exposure; 50% appears in the urine within 24 hours.
- For acute poisoning (endotracheal intubation if inadequate tidal volume), monitor breathing and evaluate/monitor blood pressure and pulse frequently since shock may supervene with little warning. Monitor ECG immediately; watch for arrhythmias and evidence of Q-T prolongation or T-wave changes. Maintain monitor. Treat shock vigorously with isotonic saline (in 5% glucose) to restore blood volume and enhance renal excretion.
- Where evidence of hypocalcaemic or normocalcaemic tetany exists, calcium gluconate (10 ml of a 10% solution) is injected to avoid tachycardia.

BIOLOGICAL EXPOSURE INDEX - BEI

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

Determinant	Index	Sampling Time	Comments
Fluorides in urine	3 mg/gm creatinine	Prior to shift	B, NS

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10mg/gm creatinine End of shift B, NS

B: Background levels occur in specimens collected from subjects NOT exposed
NS: Non-specific determinant; also observed after exposure to other exposures.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Non combustible.

- There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

Product is not combustible. No special firefighting procedures required.

Use fire fighting procedures suitable for surrounding area.

If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

- Non combustible.

- Not considered a significant fire risk, however containers may burn.

FIRE INCOMPATIBILITY

Avoid reaction with oxidising agents and strong acids.

HAZCHEM: None

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Clean up all spills immediately.

Avoid contact with skin and eyes.

Wear impervious gloves and safety glasses.

Use dry clean up procedures and avoid generating dust.

Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

- Clear area of personnel and move upwind.

- If inhalation risk of exposure exists, wear SAA approved dust respirator.

- Collect recoverable product into labelled containers for recycling.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

tin 100 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

tin 100 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

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Section 6 - ACCIDENTAL RELEASE MEASURES

tin 6 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

tin 2 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

SUITABLE CONTAINER

- Check that containers are clearly labelled.
- Packaging as recommended by manufacturer.
1 kg spools of wire.

STORAGE INCOMPATIBILITY

Segregate from strong oxidisers and strong acids.

STORAGE REQUIREMENTS

- Keep dry.
- Store under cover.
- Protect containers against physical damage.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC
Australia Exposure Standards	fluoride fume (Fluorides (as F))		2.5					

The following materials had no OELs on our record under the following CAS

- fluoride fume: CAS:16984-48-8

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Not available. Refer to individual constituents.

INGREDIENT DATA

FLUORIDE FUME:
Not available

PERSONAL PROTECTION

EYE

- Safety glasses.
- Safety glasses with side shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens 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. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

No special equipment needed when handling small quantities.
OTHERWISE: Wear physical protective gloves, eg. leather. Wear safety footwear.

OTHER

No special equipment needed when handling small quantities
OTHERWISE:
- Overalls
- Eyewash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	K- AUS P	-
1000	50	-	K- AUS P
5000	50	Airline *	-
5000	100	-	K- 2 P
10000	100	-	K- 3 P
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult site specific
CHEMWATCH data (if available), or your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

For brazing or soldering the nature of ventilation is determined by the location of the work.

- For outdoor work, natural ventilation is generally sufficient.
- For indoor work, conducted in either open or limited spaces , use mechanical (general

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exhaust or plenum) ventilation . (Open work spaces exceed 300 cubic meters per welder)
For work conducted in confined spaces, mechanical ventilation, using local exhaust systems, is required. (In confined spaces always check that oxygen has not been depleted by excessive rusting of steel or snowflake corrosion of aluminium) Mechanical or local exhaust ventilation may not be required where the process working time does not exceed 24 mins. (in an 8 hr. shift) provided the work is intermittent (a maximum of 5 mins. every hour). Local exhaust systems must be designed to provide a minimum capture velocity at the fume source, away from the worker, of 0.5 metre/sec.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Bright silver solid solder wire or a bright silver flux cored solder wire.

PHYSICAL PROPERTIES

Does not mix with water.
Sinks in water.

Molecular Weight: Not applicable.
Melting Range (°C): 221
Solubility in water (g/L): Immiscible
pH (1% solution): Not applicable
Volatile Component (%vol): Not applicable.
Relative Vapour Density (air=1): Not applicable.
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Manufactured

Boiling Range (°C): Not applicable
Specific Gravity (water=1): 6.63 (bulk)
pH (as supplied): Not applicable
Vapour Pressure (kPa): Not applicable.
Evaporation Rate: Not applicable
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available.
Viscosity: Not Applicable

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Not normally a hazard due to physical form of product.

EYE

Fumes from welding/brazing operations may be irritating to the eyes.
Molten solder is capable of causing severe damage with loss of sight.

SKIN

Skin contact does not normally present a hazard, though it is always possible that occasionally individuals may be found who react to substances usually regarded as inert.

INHALED

Fluoride vapours and thermally produced particulates (fume) of the calcium, sodium and potassium salts are potent mucous membrane irritants.

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Section 11 - TOXICOLOGICAL INFORMATION

Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort. A single acute over-exposure may even cause nose bleed. Pre-existing respiratory conditions such as emphysema, bronchitis may be aggravated by exposure.

Occupational asthma may result from exposure.

Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS

Extended exposure to inorganic fluorides causes fluorosis, which includes signs of joint pain and stiffness, tooth discolouration, nausea and vomiting, loss of appetite, diarrhoea or constipation, weight loss, anaemia, weakness and general unwellness. There may also be frequent urination and thirst. Redness, itchiness and allergy-like inflammation of the skin and mouth cavity can occur. The central nervous system may be involved.

The primary routes of exposure are usually by skin and eye contact, and inhalation of fumes from soldering operations.

Over exposure to tin is not expected.

Over exposure to metal oxide fumes may cause metal fume fever, which is an acute allergic reaction characterized by a foul taste in the mouth 4-8 hours after exposure followed by respiratory irritation, coughing, drying of mucous membranes, muscular pains, chills, general weakness and nausea 10-12 hours after exposure.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

FLUORIDE FUME:

TOXICITY

Oral (human) LDLo: 50 mg/kg

Oral (human) TDLo: 3 mg/kg

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

- 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.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

Air Transport IATA:

ICAO/IATA Class:

None

ICAO/IATA Subrisk:

None

UN/ID Number:

None

Packing Group:

-

ERG Code:

-

Shipping name:None

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Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

fluoride fume (CAS: 16984-48-8) is found on the following regulatory lists;

Australia - Australian Capital Territory Environment Protection Regulation

Agricultural Uses (IRRIG) - Physical and chemical quality

Australia - Australian Capital Territory Environment Protection Regulation

Agricultural uses (STOCK) - Physical and chemical quality

Australia - Australian Capital Territory Environment Protection Regulation

water quality standards - Inorganic chemicals

Australia Dangerous Goods Code Draft 7th Edition - List of Common Pesticides with

Corresponding UN Numbers

Australia Exposure Standards

Australia National Pollutant Inventory

Australia Poisons Schedule

Domesti

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
ammonium chloride	12125- 02- 9, 152128- 19- 3

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