

CIGWELD SHIELD-COR 11, SHIELD-COR 15

Chemwatch Material Safety Data Sheet
Issue Date: 13-Nov-2006
NC317ECP

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Revision No:5
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CIGWELD SHIELD-COR 11, SHIELD-COR 15

SYNONYMS

"Product Code: 720923, 720925, 721956", "721923, 721976, 721924, 720302", "Corshield 11", "Corshield 15"

PRODUCT USE

Self- shielding all- position flux- cored welding wire for high speed single and multiple pass applications on mild steel (Shield- Cor 11) and single pass applications on thin guage galvanised and mild steels (Shield- Cor 15).

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

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

POISONS SCHEDULE

None

RISK

Limited evidence of a carcinogenic effect.

SAFETY

Wear suitable protective clothing.
Use only in well ventilated areas.
Keep container in a well ventilated place.
To clean the floor and all objects contaminated by this material, use water and detergent.
Keep away from food, drink and animal feeding stuffs.
Take off immediately all contaminated clothing.
If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
flux- cored tubular wire which in use generates welding fumes including iron oxide fume fluoride fume magnesium oxide fume manganese fume barium oxide fume silica welding fumes aluminium fumes	Not avail. 1309-37-1 16984-48-8 1309-48-4 7439-96-5 1304-28-5 69012-64-2 7429-90-5	>60

Section 4 - FIRST AID MEASURES

SWALLOWED

Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract.

EYE

- Particulate bodies from welding spatter may be removed carefully.
- DO NOT attempt to remove particles attached to or embedded in eye.
- Lay victim down, on stretcher if available and pad BOTH eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye.
- Seek urgent medical assistance, or transport to hospital.
- For "arc eye", i.e. welding flash or UV light burns to the eye:
- Place eye pads or light clean dressings over both eyes.
- Seek medical assistance.

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

- If 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.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

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

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Section 4 - FIRST AID MEASURES

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].

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
	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

- 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.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Non combustible.
- Not considered to be a significant fire risk, however containers may burn.
- In a fire may decompose on heating and produce toxic / corrosive fumes.

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Section 5 - FIRE FIGHTING MEASURES

FIRE INCOMPATIBILITY

Welding electrodes should not be allowed to come into contact with strong acids or other substances which are corrosive to metals.

Welding arc and metal sparks can ignite combustibles.

HAZCHEM: None

Personal Protective Equipment

Breathing apparatus.

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

Minor hazard.

- Clear area of personnel.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact by using protective equipment if risk of overexposure exists.
- Prevent, by any means available, spillage from entering drains or water courses.
- Contain spill/secure load if safe to do so.
- Bundle/collect recoverable product and label for recycling.
- Collect remaining product and place in appropriate containers for disposal.
- Clean up/sweep up area. Water may be required.
- If contamination of drains or waterways occurs, advise emergency services.

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.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.

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Section 7 - HANDLING AND STORAGE

- Check that containers are clearly labelled.
- Multi-wall paper container NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

STORAGE INCOMPATIBILITY

Segregate from strong acids.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- 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	iron oxide fume (Iron oxide fume (Fe ₂ O ₃) (as Fe))		5					
Australia Exposure Standards	iron oxide fume (Inspirable dust (Not specified))		10					
Australia Exposure Standards	fluoride fume (Fluorides (as F))		2.5					
Australia Exposure Standards	magnesium oxide fume (Magnesium oxide (fume))		10					
Australia Exposure Standards	manganese fume (Manganese, fume (as Mn))		1		3			
Australia Exposure Standards	manganese fume (Manganese, dust & compounds (as Mn))		1					
Australia Exposure Standards	barium oxide fume (Barium, soluble compounds (as Ba))		0.5					
Australia Exposure Standards	aluminium fumes (Aluminium, pyro powders (as Al))		5					
Australia Exposure Standards	aluminium fumes (Aluminium (welding fumes) (as Al))		5					
Australia Exposure Standards	aluminium fumes (Aluminium (metal dust))		10					

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

- fluoride fume: CAS:16984-48-8
- manganese fume: CAS:7439-96-5
- barium oxide fume: CAS:1304-28-5

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC
• silica welding fumes:	CAS:69012-64-2							

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
iron oxide fume	2,500	
magnesium oxide fume	750	
manganese fume	500	
barium oxide fume	50	

ODOUR SAFETY FACTOR (OSF)

OSF=0.00025 (welding fumes)

None assigned. Refer to individual constituents.

During use the gases nitric oxide, nitrogen peroxide and ozone may be produced by the consumption of the electrode or the or the action of the welding arc on the atmosphere.

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

INGREDIENT DATA

WELDING FUMES:

In addition to complying with any 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, when collected in accordance with the appropriate standard (AS 3640, for example).

ES* TWA: 5 mg/m³

TLV* TWA: 5 mg/m³, B2 (a substance of variable composition)

OES* TWA: 5 mg/m³

Most welding, even with primitive ventilation, does not produce exposures inside the

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welding helmet above 5 mg/m³. That which does should be controlled (ACGIH). Inspirable dust concentrations in a workers breathing zone shall be collected and measured in accordance with AS 3640, for example. Metal content can be analytically determined by OSHA Method ID25 (ICP-AES) after total digestion of filters and dissolution of captured metals. Sampling of the Respirable Dust fraction requires cyclone separator devices (elutriators) and procedures to comply with AS 2985 (for example).

For each of the following

IRON OXIDE FUME:

FLUORIDE FUME:

MAGNESIUM OXIDE FUME:

MANGANESE FUME:

BARIUM OXIDE FUME:

SILICA WELDING FUMES:

ALUMINIUM FUMES:

Not available

PERSONAL PROTECTION

EYE

Welding helmet with suitable filter. Welding hand shield with suitable filter.

- 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].

For most open welding/brazing operations, goggles, even with appropriate filters, will not afford sufficient facial protection for operators. Where possible use welding helmets or handshields corresponding to AS 1336 and AS 1338 which provide the maximum possible facial protection from flying particles and fragments. [WRIA-WTIA Technical Note 7].

HANDS/FEET

Welding Gloves

Safety footwear.

OTHER

Overalls.

- Eyewash unit.

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.

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	- AUS P	-
1000	50	-	- AUS P
5000	50	Airline *	-
5000	100	-	- 2 P
10000	100	-	- 3 P

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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

Special ventilation requirements apply for processes which result in the generation of aluminium, copper, fluoride, manganese or zinc fume.

- For work conducted outdoors and in open work spaces, the use of mechanical (general exhaust or plenum) ventilation is required as a minimum. (Open work spaces exceed 300 cubic meters per welder)

- For indoor work, conducted in limited or confined work spaces, use of mechanical ventilation by local exhaust systems is mandatory. (In confined spaces always check that oxygen has not been depleted by excessive rusting of steel or snowflake corrosion of aluminium)

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.

If risk of inhalation or overexposure exists, wear SAA approved respirator or work in fume hood.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Steel blue coloured wire.

PHYSICAL PROPERTIES

Does not mix with water.

Sinks in water.

Molecular Weight: Not Applicable

Melting Range (°C): 1500

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): 6.6

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

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

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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.
Arc rays can injure eyes.

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.
Arc rays can burn skin.

INHALED

Fluoride vapours and thermally produced particulates (fume) of the calcium, sodium and potassium salts are potent mucous membrane irritants.
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.
Manganese fume is toxic and produces nervous system effects characterised by tiredness. Acute poisoning is rare although acute inflammation of the lungs may occur. A chemical pneumonia may also result from frequent exposure. 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". 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. Other symptoms include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalised feeling of malaise. Mild to severe headache, nausea, occasional vomiting, fever or chills, exaggerated mental activity, profuse sweating, diarrhoea, excessive urination and prostration may also occur. Tolerance to the fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours following removal from exposure.
Barium fumes are respiratory irritants. Over-exposure to barium dusts and fume may result in rhinitis, frontal headache, wheezing, laryngeal spasm, salivation and anorexia. Long term effects include nervous disorders and adverse effects on the heart, circulatory system and musculature. Heavy exposures may result in a benign pneumoconiosis. 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

Principal route of exposure is inhalation of welding fumes from electrodes and workpiece. Reaction products arising from electrode core and flux appear as welding fume depending on welding conditions, relative volatilities of metal oxides and any coatings on the workpiece. Studies of lung cancer among welders indicate that they may experience a 30-40% increased risk compared to the general population. Since smoking and exposure to other cancer-causing agents, such as asbestos fibre, may influence these results, it is not clear whether welding, in fact, represents a significant lung cancer risk. Whilst mild steel welding represents little risk, the stainless steel welder, exposed to chromium and nickel fume, may be at risk and it is this factor which may account for the overall increase in lung cancer incidence among welders. Cold isolated electrodes are relatively harmless.

Welding fume with high levels of ferrous materials may lead to particle deposition in the

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Section 11 - TOXICOLOGICAL INFORMATION

lungs (siderosis) after long exposure. This clears up when exposure stops. Chronic exposure to iron dusts may lead to eye disorders.

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.

severe disorders of the nervous system, has been reported in welders working on Mn steels in confined spaces.

Other welding process exposures can arise from radiant energy UV flash burns, thermal burns or electric shock

The welding arc emits ultraviolet radiation at wavelengths that have the potential to produce skin tumours in animals and in over-exposed individuals, however, no confirmatory studies of this effect in welders have been reported.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

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

WELDING FUMES:

Not available. Refer to individual constituents.

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

IRON OXIDE FUME:

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

No oral toxicity data.

Substance has been investigated as a tumorigen;
found to be an equivocal tumorigenic agent by RTECS criteria.

FLUORIDE FUME:

TOXICITY

Oral (human) LDLo: 50 mg/kg

Oral (human) TDL0: 3 mg/kg

IRRITATION

Nil Reported

MAGNESIUM OXIDE FUME:

TOXICITY

Inhalation (human) TCl0: 400 mg/m³

Substance has been investigated as a tumorigen;
found to be an equivocal tumorigenic agent by RTECS criteria
in rodents.

IRRITATION

Nil Reported

MANGANESE FUME:

TOXICITY

Inhalation (man) TCl0: 2.3 mg/m³

Oral (rat) LD50: 9000 mg/kg

The substance has been investigated as a
tumorigen;

found to be an equivocal tumorigenic agent by RTECS.

IRRITATION

Skin (rabbit) 500mg/24H Mild

Eye (rabbit) 500mg/24H Mild

BARIUM OXIDE FUME:

No significant acute toxicological data identified in literature search.

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Section 11 - TOXICOLOGICAL INFORMATION

SILICA WELDING FUMES:

TOXICITY

Oral (rat) LD50: 3160 mg/kg

[RTECS]

Reports indicate high/prolonged exposures to amorphous silicas induced lung fibrosis in experimental animals; in some experiments these effects were reversible. [PATTYS]

IRRITATION

No data

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

ALUMINIUM FUMES:

No toxicity or irritation data available.

MATERIAL	CARCINOGEN	REPROTOXIN	SENSITISER	SKIN
iron oxide fume	IARC:Group 3			
manganese fume		ILOM ILOEI		

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC) Carcinogens: iron oxide fume

Category: Group 3: Not classifiable as to carcinogenicity to humans

REPROTOXIN

ILOM: ILO Agents toxic to the male reproductive system: manganese fume

REPROTOXIN

ILOEI: ILO Chemicals in the electronics industry that have toxic effects on reproduction: manganese fume

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

SILICA WELDING FUMES:

No data

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

welding fumes (CAS No:Not avail):

No regulations applicable

iron oxide fume (CAS: 1309-37-1) is found on the following regulatory lists;

Australia Exposure Standards

Australia High Volume Industrial Chemical List (HVICL)

Australia Inventory of Chemical Substances (AICS)

International Agency for Research on Cancer (IARC) Carcinogens

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

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

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magnesium oxide fume (CAS: 1309-48-4) is found on the following regulatory lists;

Australia - Australia New Zealand Food Standards Code - Food Additives - Schedule 1
Permitted uses of food additives by food type

Australia - Australia New Zealand Food Standards Code - Processing Aids - Permitted
decolourants, clarifying, filtration and adsorbent agents

Australia Exposure Standards

Australia High Volume Industrial Chemical List (HVICL)

Australia Inventory of Chemical Substances (AICS)

Australia National Pollutant Inventory

CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in
Food in General, Unless Otherwise Specified, in Accordance with GMP

International Council of Chemical Associations (ICCA) - High Production Volume List

OECD Representative List of High Production Volume (HPV) Chemicals

manganese fume (CAS: 7439-96-5) 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

water quality standards - Inorganic chemicals

Australia - Australian Capital Territory Environment Protection Regulation

Pollutants entering waterways - Agricultural uses (Irrig)

Australia - Australian Capital Territory Environment Protection Regulation

Pollutants entering waterways - Domestic water quality

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Section 15 - REGULATORY INFORMATION

Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
Australia National Pollutant Inventory
OECD Representative List of High Production Volume (HPV) Chemicals
WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water

barium oxide fume (CAS: 1304-28-5) is found on the following regulatory lists;

Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule

silica welding fumes (CAS: 69012-64-2) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

aluminium fumes (CAS: 7429-90-5) is found on the following regulatory lists;

Australia - Australia New Zealand Food Standards Code - Food Additives - Schedule 1 Permitted uses of food additives by food type
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 Domestic
Australia - Australian Capital Territory Environment Protection Regulation maintenance - Inorganic chemicals Ecosyste
Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Agricultural uses (Irrig)
Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Agricultural uses (Stock)
Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Domestic water quality
Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Ecosystem maintenance
Australia Exposure Standards
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals
WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established

No data available for welding fumes as CAS: Not avail.

Section 16 - OTHER INFORMATION

EXPOSURE STANDARD FOR MIXTURES

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