WIA FABSHIELD 21B

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

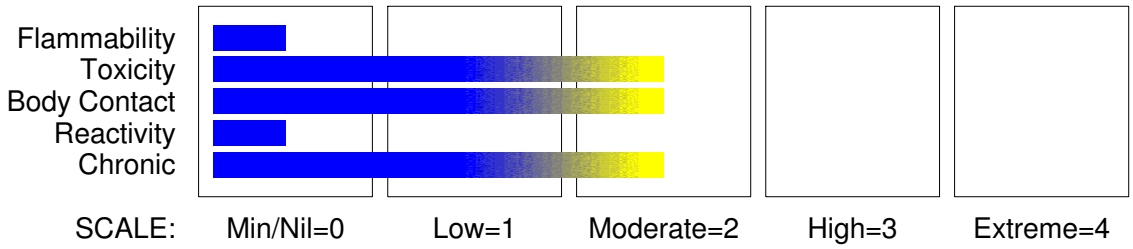
PRODUCT NAME
WIA FABSHIELD 21B

SYNONYMS
HO21B12M, HO21B12S, HO21B16S, HO21B20S, H021B20C, HO21B24C, "metal arc-welding flux-cored electrode", FCAW, "joining wire"

PRODUCT USE
Self-shielding or "gasless", consumable, fluxcored joining wire for FCAW applications involving mild and galvanised steels. Suitable for all positional applications both single and multipass on thin sections ; also for higher deposition rates on heavier components. Suited to rural fabrications, prefab. steel frame constructions, galvanised tank repairs etc.

SUPPLIER
Company: Welding Industries Of Australia
Address:
5 Allen Street
Melrose Park
SA, 5039
AUS
Telephone: +61 8 8276 6494
Telephone: 1300 300 884
Fax: 1300 301 884

HAZARD RATINGS



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
Inhalation and/or ingestion may produce health damage*.

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Cumulative effects may result following exposure*.
May produce discomfort of the respiratory system*.
Limited evidence of a carcinogenic effect*.
* (limited evidence).

SAFETY

Use only in well ventilated areas.
Keep container in a well ventilated place.
Take off immediately all contaminated clothing.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
metal alloy wire with flux-core		
which upon use generates:		
welding fumes	Not avail.	
as		
iron oxide fume	1309-37-1	10-30
magnesium oxide fume	1309-48-4	10-30
manganese fume	7439-96-5	<2
fluoride fume	16984-48-8	10-30
silica welding fumes	69012-64-2	<2
sodium and calcium fume		10-30
action of arc on air may produce		
ozone	10028-15-6	
nitrogen oxides	Mixture	

Section 4 - FIRST AID MEASURES

SWALLOWED

Not normally a hazard due to physical form of product.

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.

SKIN

If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses 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.

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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 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.

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• 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.

FIRE INCOMPATIBILITY
None known.

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 in suitable containers for disposal.

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.

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:

iron oxide fume	500 mg/m³
magnesium oxide fume	500 mg/m³
fluoride fume	250 mg/m³

irreversible or other serious effects or symptoms which could

continued...

impair an individual's ability to take protective action is:

iron oxide fume	25 mg/m³
magnesium oxide fume	50 mg/m³
fluoride fume	2.5 mg/m³

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

iron oxide fume	15 mg/m³
magnesium oxide fume	30 mg/m³
fluoride fume	2.5 mg/m³

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

iron oxide fume	10 mg/m³
magnesium oxide fume	10 mg/m³
fluoride fume	2.5 mg/m³

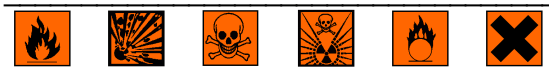
American Industrial Hygiene Association (AIHA)

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

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+	+	+	+	+	+

+: May be stored together
O: May be stored together with specific preventions
X: Must not be stored together

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.

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SUITABLE CONTAINER

Packaging as recommended by manufacturer.
• Check that containers are clearly labelled.
spools coils

STORAGE INCOMPATIBILITY

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

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/m³	STEL ppm	STEL m5/m³	Peak ppm	Peak mg/m³
Australia Exposure Standards	iron oxide fume		5				
Australia Exposure Standards	iron oxide fume		10				
Australia Exposure Standards	magnesium oxide fume		10				
Australia Exposure Standards	manganese fume		1		3		
Australia Exposure Standards	manganese fume		1				
Australia Exposure Standards	fluoride fume		2.5				
Australia Exposure Standards	ozone					0.1	0.2

The following materials had no OELs on our record under the following CAS or Chemwatch (CW) numbers
WIA Fabshield 21B: No data available for CW:505702
welding fumes: No data available for CW:35201
manganese fume: No data available for CAS:7439-96-5
fluoride fume: No data available for CAS:16984-48-8
silica welding fumes: No data available for CAS:69012-64-2
nitrogen oxides: No data available for
Mixture: No data available for

EMERGENCY EXPOSURE LIMITS

Material	Original IDLH Value (ppm)	Original IDLH Value (mg/m3)	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
iron oxide fume	N.E.	N.E.	2,500	
magnesium oxide fume	N.E.	N.E.	750	
manganese fume	N.E.	N.E.	500	
ozone	10			5

None assigned. Refer to individual constituents.

continued...

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 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).

IRON OXIDE FUME:

ES* TWA: 5 mg/m³ (as Fe in fumes and gases from welding and cutting)
TLV* TWA: 5 mg/m³ (as Fe) A4
NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans.
OES* TWA: 5 mg/m³; STEL: 10 mg/m³ (as Fe)

MAGNESIUM OXIDE FUME:

ES* TWA: 10 mg/m³
TLV* TWA: 10 mg/m³
OES* TWA: 4 mg/m³; STEL: 10 mg/m³
MAK value: 6 mg/m³
- measured as the respirable fraction of the aerosol.
MAK Category II Peak Limitation: For substances with systemic effects and with a half-life in humans of less than two hours.
Allows excursions of 2 times the MAK value, for 30 minutes (on average), four times per shift.
MAK values, and categories and groups are those recommended within the Federal Republic of Germany.
IDLH Level: 750 mg/m³

MANGANESE FUME:

ES* TWA: 1 mg/m³ STEL: 3 mg/m³
OES* TWA: 1 mg/m³; STEL: 3 mg/m³ (as Mn)

FLUORIDE FUME:

TLV* TWA: 2.5 mg/m³
ES* TWA: 2.5 mg/m³
OES* TWA: 2.5 mg/m³
IDLH Level: 500 mg/m³

SILICA WELDING FUMES:

Not available. Refer to individual constituents.

OZONE:

NOTE: Detector tubes for ozone, measuring in excess of 0.05 ppm, are commercially available.
Exposure at 0.2 ppm appears to produce mild acute but not cumulative effects. It is thought that exposures of the order of 0.1 ppm will be tolerated by most workers including asthmatics. Chronic exposure at 0.1 ppm or more can induce significant adverse effects in the lower

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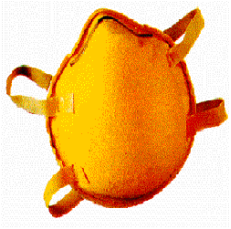
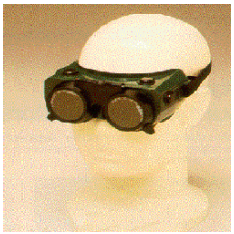
respiratory tract of both normal and atopic individuals.
Human exposure for 2 hours at an average concentration of 1.5 ppm ozone resulted in a 20% reduction in timed vital capacity of the lung and other effects. Concentrations of ozone in excess of a few tenths ppm cause occasional discomfort to exposed individuals manifest as headache, dryness of the throat and mucous membranes of the eyes and nose following exposures of short duration.
Exposure to ozone during moderate to heavy work loads results in significantly decreased forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) at 0.12 ppm; this is effect is greater at higher concentrations.

NITROGEN OXIDES:

Data for nitrogen dioxide:
TLV TWA: 3 ppm 6 mg/m³ STEL: 5 ppm 10 mg/m³
ES TWA: 3 ppm 5.6 mg/m³ STEL: 5 ppm 9.4 mg/m³
IDLH Level: 50 ppm
NOTE: Detector tubes for nitrogen dioxide, measuring in excess of 0.5 ppm, are commercially 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.

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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. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
welding " brazing fumes (released at relatively low velocity into moderately still air)	0.5-1.0 m/s (100-200 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of welding or brazing fumes generated 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.
If risk of inhalation or overexposure exists, wear SAA approved respirator or work in fume hood.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Bright steel, flux cored electrode wire. No odour. Insoluble in water.
Weld metal tensile strength 625 MPa.

PHYSICAL PROPERTIES

Does not mix with water.
Sinks in water.

Molecular Weight: Not applicable. Boiling Range (°C): Not applicable

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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 available.
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Manufactured

Specific Gravity (water=1): >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.

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.
Considered an unlikely route of entry in commercial/industrial environments.

EYE

Fumes from welding/brazing operations may be irritating to the 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.

INHALED

Fumes evolved during welding operations may be irritating to the upper-respiratory tract and may be harmful if 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.
Persons with impaired respiratory function, airway diseases and conditions such

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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 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.

MATERIAL	CARCINOGEN	SENSITISER	SKIN	REPROTOXIN
iron oxide fume	IARC:Group 3: Not classifiable as to "carcinogenicity" to humans			
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

continued...

Section 12 - ECOLOGICAL INFORMATION

No data
Refer to data for ingredients, which follows:

SILICA WELDING FUMES:
No data

OZONE:
The material is classified as an ecotoxin* because the Fish LC50 (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment) Appendix 8, Table 1
Compiler's Guide for the Preparation of International Chemical Safety Cards: 1993 Commission of the European Communities.

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

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 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

magnesium oxide fume (CAS: 1309-48-4) is found on the following regulatory lists;
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
International Council of Chemical Associations (ICCA) - High Production Volume

continued...

List
OECD Representative List of High Production Volume (HPV) Chemicals

manganese fume (CAS: 7439-96-5) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

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

No data available for welding fumes as CAS: Not avail.
No data available for ozone as CAS: 10028-15-6.
No data available for nitrogen oxides as CAS: Mixture.

Section 16 - OTHER INFORMATION

Issue Date: 30-Mar-2006
Print Date: 10-Jul-2006