



## WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 1 of 12

### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT NAME

WIA AUSTARC 16 TC

#### SYNONYMS

"Product number 16TC25", 16TC25M, 16TC32, 16TC32M, 16TC40, 16TC50, 16TC60, "Welding Industries", "metal arc-welding flux-coated electrode", W.I.A., MMAW, "twin coated flux rod", "basic/low hydrogen type electrode"

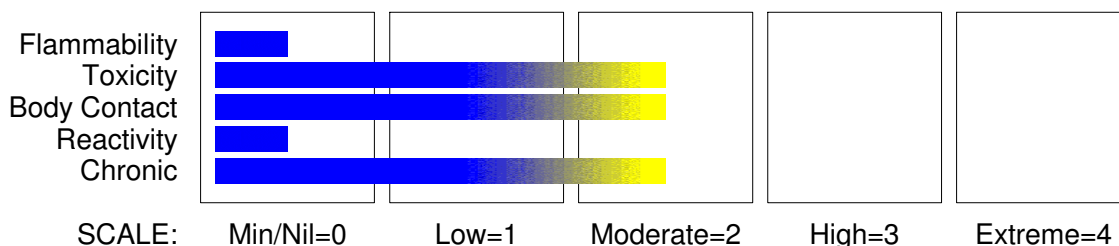
#### PRODUCT USE

Consumable, basic, low hydrogen twin flux coated MMAW electrode for all positions except vertical down. Suitable for welding carbon, carbon-manganese and low alloy high strength steels. Gives superior notch toughness properties and can be used as a buffer layer under hardfacing overlays,

#### 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\*.

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 2 of 12  
Section 2 - HAZARDS IDENTIFICATION

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 twin flux coat which upon use generates: welding fumes	Not avail.	
as		
iron oxide fume	1309-37-1	30
manganese fume	7439-96-5	<10
magnesium oxide fume	1309-48-4	1-10
silica welding fumes	69012-64-2	1-10
fluoride fume	16984-48-8	1-10
titanium, sodium, potassium } and calcium oxides fume }		30-60
action of arc on air may generate 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.
- 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

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.
- Protheses 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

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 3 of 12  
Section 4 - FIRST AID MEASURES

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 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].

## 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.

### FIRE INCOMPATIBILITY

None known.

### HAZCHEM

None

### Personal Protective Equipment

Breathing apparatus.

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 4 of 12

## Section 6 - ACCIDENTAL RELEASE MEASURES

### EMERGENCY PROCEDURES

#### MINOR SPILLS

Clean up all spills immediately.  
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/m <sup>3</sup>
magnesium oxide fume	500 mg/m <sup>3</sup>
silica welding fumes	50 mg/m <sup>3</sup>
fluoride fume	250 mg/m <sup>3</sup>

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

iron oxide fume	25 mg/m <sup>3</sup>
magnesium oxide fume	50 mg/m <sup>3</sup>
silica welding fumes	10 mg/m <sup>3</sup>
fluoride fume	2.5 mg/m <sup>3</sup>

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

iron oxide fume	15 mg/m <sup>3</sup>
magnesium oxide fume	30 mg/m <sup>3</sup>
silica welding fumes	6 mg/m <sup>3</sup>
fluoride fume	2.5 mg/m <sup>3</sup>

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

iron oxide fume	10 mg/m <sup>3</sup>
magnesium oxide fume	10 mg/m <sup>3</sup>
silica welding fumes	2 mg/m <sup>3</sup>
fluoride fume	2.5 mg/m <sup>3</sup>

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 5 of 12

## Section 6 - ACCIDENTAL RELEASE MEASURES

Very Toxic (T+)	$\geq 0.1\%$	Toxic (T)	$\geq 3.0\%$
R50	$\geq 0.25\%$	Corrosive (C)	$\geq 5.0\%$
R51	$\geq 2.5\%$		
else	$\geq 10\%$		

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 precautions  
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.

### SUITABLE CONTAINER

Packaging as recommended by manufacturer.

- 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.  
carton

### STORAGE INCOMPATIBILITY

Keep dry.

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.

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
 Issue Date: 30-Mar-2006  
 C317SC

CHEMWATCH 25229  
 CD 2006/2 Page 6 of 12  
 Section 7 - HANDLING AND STORAGE

- Observe manufacturer's storing and handling recommendations.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL m5/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>
Australia Exposure Standards	iron oxide fume		5				
Australia Exposure Standards	iron oxide fume		10				
Australia Exposure Standards	manganese fume		1		3		
Australia Exposure Standards	manganese fume		1				
Australia Exposure Standards	magnesium oxide fume		10				
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 Austarc 16 TC: No data available for CW:25229  
 welding fumes: No data available for CW:35201  
 manganese fume: No data available for CAS:7439-96-5  
 silica welding fumes: No data available for CAS:69012-64-2  
 fluoride fume: No data available for CAS:16984-48-8  
 nitrogen oxides: No data available for  
 Mixture: No data available for

### EMERGENCY EXPOSURE LIMITS

Material	Original IDLH Value (ppm)	Original IDLH Value (mg/m <sup>3</sup> )	Revised IDLH Value (mg/m <sup>3</sup> )	Revised IDLH Value (ppm)
iron oxide fume	N.E.	N.E.	2,500	
manganese fume	N.E.	N.E.	500	
magnesium oxide fume	N.E.	N.E.	750	
ozone	10			5

None assigned. Refer to individual constituents.

### 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/m<sup>3</sup>, when collected in accordance with the appropriate standard (AS 3640, for example).

ES\* TWA: 5 mg/m<sup>3</sup>

TLV\* TWA: 5 mg/m<sup>3</sup>, B2 (a substance of variable composition)

OES\* TWA: 5 mg/m<sup>3</sup>

Most welding, even with primitive ventilation, does not produce exposures inside the welding helmet above 5 mg/m<sup>3</sup>. 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

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 7 of 12

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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/m<sup>3</sup> (as Fe in fumes and gases from welding and cutting)

TLV\* TWA: 5 mg/m<sup>3</sup> (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/m<sup>3</sup>; STEL: 10 mg/m<sup>3</sup> (as Fe)

### MANGANESE FUME:

ES\* TWA: 1 mg/m<sup>3</sup> STEL: 3 mg/m<sup>3</sup>

OES\* TWA: 1 mg/m<sup>3</sup>; STEL: 3 mg/m<sup>3</sup> (as Mn)

### MAGNESIUM OXIDE FUME:

ES\* TWA: 10 mg/m<sup>3</sup>

TLV\* TWA: 10 mg/m<sup>3</sup>

OES\* TWA: 4 mg/m<sup>3</sup>; STEL: 10 mg/m<sup>3</sup>

MAK value: 6 mg/m<sup>3</sup>

- 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/m<sup>3</sup>

### SILICA WELDING FUMES:

Not available. Refer to individual constituents.

### FLUORIDE FUME:

TLV\* TWA: 2.5 mg/m<sup>3</sup>

ES\* TWA: 2.5 mg/m<sup>3</sup>

OES\* TWA: 2.5 mg/m<sup>3</sup>

IDLH Level: 500 mg/m<sup>3</sup>

### 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 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 effect is greater at higher concentrations.

### NITROGEN OXIDES:

Data for nitrogen dioxide:

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 8 of 12

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

TLV TWA: 3 ppm 6 mg/m<sup>3</sup> STEL: 5 ppm 10 mg/m<sup>3</sup>  
ES TWA: 3 ppm 5.6 mg/m<sup>3</sup> STEL: 5 ppm 9.4 mg/m<sup>3</sup>  
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.

### ENGINEERING CONTROLS

For manual arc welding operations 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 open spaces, use mechanical (general exhaust or plenum) ventilation. (Open work spaces exceed 300 cubic metres per welder)
- For work conducted in limited or 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

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 9 of 12

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Twin flux coated, basic, low hydrogen welding rod. Flux coating coloured grey with bronze tip: imprint 4816. Cold electrodes are odourless.

Insoluble in water.

Weld metal composition: 0.06%C, 1.2%Mn, 0.4%Si, 0.010%S, 0.015%P, balance Fe. Tensile strength 560MPa; CVN impact values 110J @ -40°C.

### 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 available.

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not applicable

State: Manufactured

Boiling Range (°C): Not applicable

Specific Gravity (water=1): >4

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

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 10 of 12

## Section 11 - TOXICOLOGICAL INFORMATION

upper-respiratory tract and may be harmful if inhaled.

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 as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

Harmful levels of ozone may be found when working in confined spaces. Symptoms of exposure include irritation of the upper membranes of the respiratory tract and lungs as well as pulmonary (lung) changes including irritation, accumulation of fluid (congestion and oedema) and in some cases haemorrhage. Exposure may aggravate any pre-existing lung condition such as bronchitis, asthma or emphysema.

### 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. severe disorders of the nervous system, has been reported in welders working on Mn steels in confined spaces. 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. Ozone is suspected to produce lung cancer in laboratory animals; no reports of this effect have been documented in exposed human populations. 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			

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 11 of 12  
Section 11 - TOXICOLOGICAL INFORMATION

3: Not  
classifiable  
as to  
"carcinogenic  
ity" 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

## 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

continued...

# WIA AUSTARC 16 TC

Chemwatch Material Safety Data Sheet  
Issue Date: 30-Mar-2006  
C317SC

CHEMWATCH 25229  
CD 2006/2 Page 12 of 12

---

## 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

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

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

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

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

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

---

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

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