

CIGWELD COMWELD BRONZE FLUX

Chemwatch Material Safety Data Sheet

Issue Date: 28-Dec-2006

NC317ECP

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CIGWELD COMWELD BRONZE FLUX

SYNONYMS

"Product Code: 321791, 321793, 321796"

PROPER SHIPPING NAME

CHLORATE AND BORATE MIXTURE

PRODUCT USE

Bronze welding flux for braze welding of cast iron, steel, steel castings, malleable iron, etc.

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. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

S5

RISK

Contact with combustible material may cause fire.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY

Keep away from combustible material.

Keep container in a well ventilated place.

Avoid exposure - obtain special instructions before use.

To clean the floor and all objects contaminated by this material, use water.

Take off immediately all contaminated clothing.

If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

This material and its container must be disposed of as hazardous waste.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
boric acid	10043-35-3	>60
potassium chlorate	3811-04-9	<10
sodium metaborate	7775-19-1	<10

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with 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.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

For acute or repeated short term exposures to boron and its compounds:

- Nausea, vomiting, diarrhoea and epigastric pain, haematemesis and blue-green discolouration of both faeces and vomitus characterise adult boron intoxication.
 - Assess and correct any abnormalities found in airway and circulation.
 - A tidal volume of 10-15 mg/kg should be maintained.
 - Emesis should be induced unless the patient is in coma, is experiencing seizures or has lost the gag reflex. If any of these are present, gastric lavage should be performed with a large-bore tube after endotracheal intubation or in the presence of continuous respiratory action.
 - Activated charcoal is probably not of value though its use might be indicated following gastric evacuation. Catharsis might be useful to eliminate any borates remaining in the gastro-intestinal tract (magnesium sulfate: adults, 30 gms: children 250 mg/kg).
 - Peritoneal dialysis and haemodialysis remove some borates.
- [Ellenhorn and Barceloux: Medical Toxicology].

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Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Fight fire from a safe distance, with adequate cover.
- Extinguishers should be used only by trained personnel.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- 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.
- If fire gets out of control withdraw personnel and warn against entry.
- Equipment should be thoroughly decontaminated after use.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

FIRE/EXPLOSION HAZARD

- Will not burn but increases intensity of fire.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- Heat affected containers remain hazardous.
- Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.
- May emit irritating, poisonous or corrosive fumes.

FIRE INCOMPATIBILITY

Oxidising agents as a class are not necessarily combustible themselves, but can increase the risk and intensity of fire in many other substances.

Boric acid may form explosive mixtures with potassium and acetic anhydride.

HAZCHEM: 1Y

Personal Protective Equipment

- Gloves, boots (chemical resistant).
- Breathing apparatus.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- No smoking, naked lights, ignition sources.
- Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.
- Avoid breathing dust or vapours and all contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with dry sand, earth, inert material or vermiculite.

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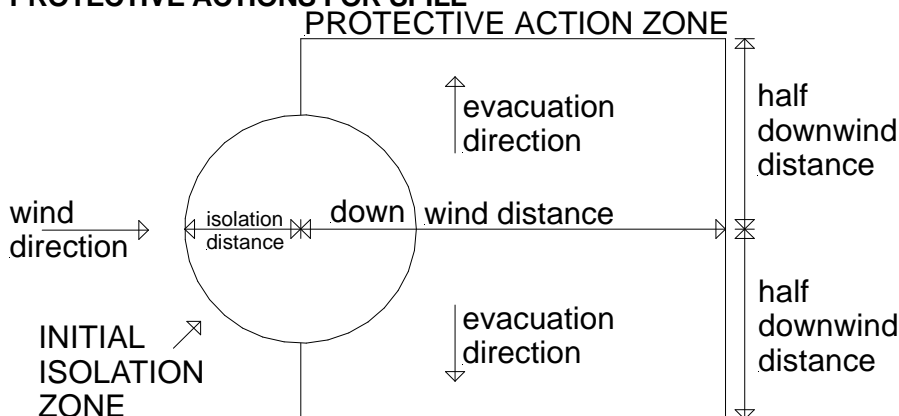
Section 6 - ACCIDENTAL RELEASE MEASURES

- DO NOT use sawdust as fire may result.
- Scoop up solid residues and seal in labelled drums for disposal.
- Neutralise/decontaminate area.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus and protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- No smoking, flames or ignition sources.
- Increase ventilation.
- Contain spill with sand, earth or other clean, inert materials.
- NEVER USE organic absorbents such as sawdust, paper or cloth.
- Use spark-free and explosion-proof equipment.
- Collect any recoverable product into labelled containers for possible recycling.
- Avoid contamination with organic matter to prevent subsequent fire and explosion.
- DO NOT mix fresh with recovered material.
- Collect residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- Decontaminate equipment and launder protective clothing before storage and re-use.
- If contamination of drains or waterways occurs advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	100 metres
IERG Number	31

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as

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Section 6 - ACCIDENTAL RELEASE MEASURES

- a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 140 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

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:

boric acid 125 mg/m³

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

boric acid 50 mg/m³

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

boric acid 30 mg/m³

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

boric acid 10 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

- Avoid personal contact and inhalation of dust, mist or vapours.
- Provide adequate ventilation.
- Always wear protective equipment and wash off any spillage from clothing.
- Keep material away from light, heat, flammables or combustibles.
- Keep cool, dry and away from incompatible materials.
- Avoid physical damage to containers.
- DO NOT repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use.
- Contamination can lead to decomposition leading to possible intense heat and fire.
- When handling NEVER smoke, eat or drink.
- Always wash hands with soap and water after handling.
- Use only good occupational work practice.
- Observe manufacturer's storing and handling directions.

SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Segregate from reducing agents.

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Section 7 - HANDLING AND STORAGE

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	potassium chlorate (Inspirable dust (Not specified))		10					

The following materials had no OELs on our records

- boric acid: CAS:10043-35-3 CAS:11113-50-1 CAS:41685-84-1
- sodium metaborate: CAS:7775-19-1 CAS:10555-76-7 CAS:15293-77-3 CAS:35585-58-1

MATERIAL DATA

None assigned. Refer to individual constituents.

INGREDIENT DATA

POTASSIUM CHLORATE:

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload).

SODIUM METABORATE:

CEL TWA: 1 mg/m³ (compare TLV TWA: borates, sodium salts, anhydrous)

PERSONAL PROTECTION

EYE

- Safety glasses.
- Welding mask, goggles, hand shield.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Contact lenses can pose a special hazard. Soft lenses may absorb irritants and all contact lenses concentrate them. They should not be worn when handling this product. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

HANDS/FEET

Welding Gloves

Safety footwear.

OTHER

- Eyewash unit.

Overalls.

Ensure there is ready access to a safety shower.

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

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

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

Use in a well-ventilated area.

Provide adequate ventilation in warehouse or closed storage areas.

If risk of overexposure exists, wear SAA approved respirator.

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 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

White odourless powder; mixes with water. This product is used in conjunction with manganese Bronze and Nickel Bronze rod. Overheating during braze welding will produce brazing fume high in zinc oxide.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: Not applicable

Melting Range (°C): 635

Solubility in water (g/L): Miscible

pH (1% solution): Not available

Volatile Component (%vol): Not available

Relative Vapour Density (air=1): Not

applicable

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not available

State: Divided solid

Boiling Range (°C): Not applicable

Specific Gravity (water=1): 0.9

pH (as supplied): Not available

Vapour Pressure (kPa): Not available

Evaporation Rate: Not applicable

Flash Point (°C): Non combustible

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 under normal handling conditions.
- Prolonged exposure to heat.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Borate poisoning causes nausea, vomiting, diarrhoea and pain in the upper abdomen. Often persistent vomiting occurs, and there may be blood in the faeces. There may also be weakness, lethargy, headache, restlessness, tremors and convulsions. All borates cause similar effects; the lethal dose is over 30 grams. Poisoning initially stimulates the central nervous system before causing depression, as well as disturbing the digestive system, causing skin eruptions, and damage to the liver and kidneys. Borate is mostly eliminated from the body via the kidneys.

Nausea and vomiting are almost always apparent after chlorate poisonings usually with upper stomach pain. Diarrhoea may also occur. Chlorates are poisonous to the kidney and this can cause death. Healing can be slow and kidney symptoms last weeks. Often there is severe blood cell damage.

EYE

There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

SKIN

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

Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may

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Section 11 - TOXICOLOGICAL INFORMATION

produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.

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

Inhalation of small amounts of dust or fume over long periods may cause poisoning.

CHRONIC HEALTH EFFECTS

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

Borate can accumulate in the testes and deplete germ cells and cause withering of the testicles, according to animal testing. Hair loss, skin inflammation, stomach ulcer and anaemia can all occur. Repeated swallowing or inhalation irritates the stomach, causes a loss of appetite, disturbed digestion, nausea and vomiting, red rash, dry skin and mucous membranes, reddening of the tongue, cracking of the lips, inflamed conjunctiva, swelling of the eyelids and kidney injury. Animal testing revealed prolonged ingestion causes effects to the reproductive system in both males and females.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

BORIC ACID:

TOXICITY

Oral (woman) LDLo: 200 mg/kg

Oral (rat) LD50: 2660 mg/kg

Inhalation (rat) LCLo: 28 mg/m³/4h

Dermal (man) LDLo: 2430 mg/kg

IRRITATION

Skin (human): 15 mg/3d - I- Mild

POTASSIUM CHLORATE:

TOXICITY

Oral (rat) LD50: 1870 mg/kg

IRRITATION

Nil Reported

SODIUM METABORATE:

TOXICITY

anhydrous:

Oral (rat) LD50: 2330 mg/kg

for octahydrate

Oral (rat) LD50: 2660 mg/kg *

Dermal (g.pig) LD50: >2000 mg/kg *

IRRITATION

Nil Reported

Nil reported

* Kodak

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant: Not Determined

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

BORIC ACID:

Fish LC50 (96hr.) (mg/l):

79- 100

Daphnia magna EC50 (48hr.) (mg/l):

115- 153

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Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible. Special hazard may exist - specialist advice may be required.
- Consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury or incinerate residue at an approved site.
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
- Puncture containers to prevent re-use and bury at an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: OXIDIZING AGENT
HAZCHEM: 1Y

UNDG:

Dangerous Goods	5.1	Subrisk:	None
Class:			
UN Number:	1458	Packing Group:	III
Shipping Name: CHLORATE AND BORATE MIXTURE			

Air Transport IATA:

ICAO/IATA Class:	5.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1458	Packing Group:	III
ERG Code:	5L		
Shipping Name: Chlorate and borate mixture			

Maritime Transport IMDG:

IMDG Class:	5.1	IMDG Subrisk:	None
UN Number:	1458	Packing Group:	III
EMS Number:	F- H, S- Q	Marine Pollutant:	Not Determined
Shipping Name: CHLORATE AND BORATE MIXTURE			

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: S5

REGULATIONS

boric acid (CAS: 10043-35-3) is found on the following regulatory lists;
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule

5

OECD Representative List of High Production Volume (HPV) Chemicals
boric acid (CAS: 11113-50-1) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

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Section 15 - REGULATORY INFORMATION

potassium chlorate (CAS: 3811-04-9) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule
2
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule
5
OECD Representative List of High Production Volume (HPV) Chemicals

sodium metaborate (CAS: 7775-19-1) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
OECD Representative List of High Production Volume (HPV) Chemicals

sodium metaborate (CAS: 10555-76-7) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
OECD Representative List of High Production Volume (HPV) Chemicals

sodium metaborate (CAS: 15293-77-3) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
OECD Representative List of High Production Volume (HPV) Chemicals

sodium metaborate (CAS: 35585-58-1) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for boric acid as CAS: 41685-84-1.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
boric acid	10043- 35- 3, 11113- 50- 1, 41685- 84- 1
sodium metaborate	7775- 19- 1, 10555- 76- 7, 15293- 77- 3, 35585- 58- 1

REPRODUCTIVE HEALTH GUIDELINES

Ingredient	ORG	UF	Endpoint	CR	Adeq	TLV
boric acid	1.5 mg/m ³	100	R	NA	-	

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

EXPOSURE STANDARD FOR MIXTURES

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :1 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded,

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Section 16 - OTHER INFORMATION

"Worst Case" considerations deem the individual to be overexposed.

Component	Breathing Zone ppm	Breathing Zone mg/m ³	Mixture Conc (%)
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Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
sodium metaborate	1.0000	10.0

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