

X-FE

ChemWatch Material Safety Data Sheet
Issue Date: 30-Mar-2006
A317TC

CHEMWATCH 5503-04
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

X-FE

SYNONYMS

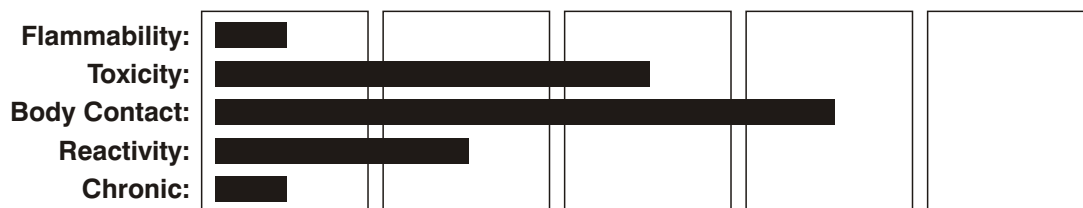
PRODUCT USE

For the removal of bore water and rust stains from a variety of substrates.

SUPPLIER

Company: Clearbore Pty. Ltd.
Address: 11/26 Terrace Road, North Richmond NSW 2754, Australia
Telephone: +61 2 4571 3040
Fax: +61 2 4571 3041
A/H: 0427 235 144

HAZARD RATINGS



SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

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

S6

continued...

Section 2 - HAZARDS IDENTIFICATION...

RISK

- Harmful in contact with skin and if swallowed.
 - Causes burns.
 - Risk of serious damage to the eyes.
 - Cumulative effects may result following exposure*.
- *(limited evidence)

SAFETY

- Keep locked up.
- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with eyes.
- Wear suitable protective clothing.
- To clean the floor and all objects contaminated by this material, use water.
- Take off immediately all contaminated clothing.
- In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre. (Show label if possible).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
oxalic acid	144-62-7	1-10
non-regulated additive		<1
solubliser		<1
nonionic surfactants		0.5
stabiliser		0.025
water	7732-18-5	>60

Section 4 - FIRST AID MEASURES

SWALLOWED

- Rinse mouth out with plenty of water.
For advise, contact 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.

Section 4 - FIRST AID MEASURES...

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 contact occurs:

- Immediately remove all contaminated clothing, including footwear
- 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.
- 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, preferable 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

Treat symptomatically.

Treatment must be prompt.

- Give immediately by mouth, a dilute solution of any soluble calcium salt; calcium lactate, lime water, finely pulverised chalk or plaster suspended in a large volume of water or milk. Large amounts of calcium are required to inactivate oxalate by precipitating it as the insoluble calcium salt. DO NOT give an emetic drug.
 - Perform gastric lavage carefully or not at all if severe mucosal injury is evident. Dilute lime water (calcium hydroxide) makes a good lavage fluid if used in large quantity.
 - Administer a slow intravenous injection of 10-20ml of calcium gluconate (10% solution) or of calcium chloride (5% solution). This injection may be repeated frequently to prevent hypocalcaemic tetany. Calcium gluconate (10ml) may also be given intramuscularly every few hours. Calcium compounds are never given subcutaneously; even the intramuscular route is hazardous in infants because of the incidence of sloughing.
 - In severe cases parathyroid extract (100 USP units) given intramuscularly.
 - Morphine may be necessary to control pain.
 - Treat shock by cautious intravenous injection of isotonic saline solution. Check for metabolic acidosis and infuse sodium bicarbonate if necessary.
 - Watch for oedema of the glottis late formation of oesophageal stricture.
 - Useful demulcents by mouth include milk of magnesia, bismuth subcarbonate, and mineral oil.
 - Prophylactic and therapeutic measures in anticipation of renal damage.
- [GOSSELIN SMITH HODGE: Clinical Toxicology of Commercial Products]

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 full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- 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

- The material is not readily combustible under normal conditions.
- However, it will break down under fire conditions and the organic component may burn.
- Not considered to be a significant fire risk.
- Heat may cause expansion or decomposition with violent rupture of containers.
- Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
- May emit acrid smoke.

FIRE INCOMPATIBILITY

Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

HAZCHEM

None

PROTECTIVE EQUIPMENT

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
 - Avoid breathing vapours and contact with skin and eyes.
 - Control personal contact by using protective equipment.
 - Contain and absorb spill with sand, earth, inert material or vermiculite.
 - Wipe up.
 - Place in a suitable labelled container for waste disposal.
- Small quantities may be discharged to sewer with a large excess of water.

Section 6 - ACCIDENTAL RELEASE MEASURES...

MAJOR SPILLS

- DO NOT touch the spill material.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Neutralise/decontaminate residue.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- 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 effect is:

oxalic acid 500mg/m³
water 500mg/m³

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

oxalic acid 5mg/m³
water 500mg/m³

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

oxalic acid 2mg/m³
water 500mg/m³

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

oxalic acid 1mg/m³
water 500mg/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.

continued...

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- DO NOT allow clothing wet with material to stay in contact with skin.
- Limit all unnecessary personal contact.
- Wear protective clothing when risk of overexposure 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/handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Glass container or plastic container.
- Packaging as recommended by manufacturer.
- Check that containers are clearly labelled
- DO NOT use aluminium, galvanised or tin-plated containers.
- Pack of 2.5 Litres or less require a child-resistant closure.

STORAGE INCOMPATIBILITY

- Avoid storage with oxidisers, strong alkalis and silver / silver compounds.
- Avoid contamination of water, foodstuffs, feed or seed.

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
Australia Exposure Standards	oxalic acid		1		2		

The following materials had no OELS on our record under the following CAS or Chemwatch (CW) numbers

- X-Fe: No data available for CW:5503-04
- Water: No data available for CAS:7732-18-5

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION...

EMERGENCY EXPOSURE LIMITS

Material	Original IDLH Value (ppm)	Original IDLH Value (mg/m ³)	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
oxalic acid		500	500[Unch]	

None assigned. Refer to individual constituents.

INGREDIENT DATA

OXALIC ACID:

There is only scant data regarding the toxicology of industrial exposure to airborne oxalates. There is no data regarding potential systemic toxicity or bioavailability of inhaled oxalates. The TLV-TWA (corresponding to 0.27 ppm on a molecular basis) is comparable to that of sulfuric acid and phosphoric acid and is thought to provide protection against the risk of eye and skin burns and respiratory tract irritation. The recommendation for a STEL is added to prevent irritation of skin and mucous membranes.

WATER: No exposure limits set by NOHSC or ACGIH

PERSONAL PROTECTION

EYE

- Safety glasses with side shields; or as required
- Chemical goggles
- Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS / FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear.

OTHER

- Overalls
- Eyewash unit

DO NOT allow clothing wet with material to stay in contact with skin. 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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION...

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

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

<i>Type of Contaminant:</i>	<i>Air Speed:</i>
Solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5m/s (50-100 f/min)
Aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1m/s (100-200 f/min)
Direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
Grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10m/s (500-2000 f/min)

Within each range the appropriate value depends on:

Lower end of the range

1. Room air currents minimal or favourable to capture
2. Contaminants of low toxicity or of nuisance value only
3. Intermittent, low production
4. Large hood or large air mass in motion

Upper end of the range

1. Disturbing room air currents
2. Contaminants of high toxicity
3. High production, heavy use
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 airspeed 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 (200-4000 f/min) for extraction of crusher dusts generated 2 metres 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless, weakly acidic liquid. Faint odour. Miscible with water.

PHYSICAL PROPERTIES

Liquid

Mixes with water

Molecular Weight:	Not applicable	Boiling Point (°C):	100 approx.
Melting Range (°C):	Not available	Specific Gravity (water=1):	1.03
Solubility in Water (g/L):	Miscible	pH (as supplied):	2.0
pH (1% solution):	Not available	Vapour Pressure (kPa):	Not available
Volatile Component (%vol):	>50 water	Evaporation Rate:	Slow
Relative Vapour Density (air=1):	Not available	Flash Point (°C):	Non Flammable
Lower Explosive Limit (%):	Not applicable	Upper Explosive Limit (%):	Not applicable
Autoignition Temp (°C):	Not available	Decomposition Temp (°C):	> 150
State:	Liquid		

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

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

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACCUTE HEALTH EFFECTS

SWALLOWED

The liquid is highly discomforting to the gastro-intestinal tract if swallowed in quantity. Ingestion of low-molecular organic acid solutions may produce spontaneous haemorrhaging, intravascular coagulation, gastrointestinal damage and oesophageal and pyloric stricture.

EYE

The liquid is highly discomforting to the eyes. Dilute solutions of low-molecular organic acids cause conjunctival hyperaemia, prompt pain and corneal injury..

SKIN

Irritating to skin.

The liquid is highly discomforting to the skin and is capable of causing skin reactions which may lead to dermatitis or may even cause blisters or burns if contact is prolonged.

Open cuts, abraded or irritated skin should not be exposed to this material.

The material may accentuate any pre-existing dermatitis condition.

Section 11 - TOXICOLOGICAL INFORMATION...

INHALED

Not normally a hazard due to the non-volatile nature of product.
The spray mist is harmful and discomforting to the upper respiratory tract if inhaled.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by eye contact, skin contact with the material and inhalation of vapour/spray mist.

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

Unless otherwise specified, data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

OXALIC ACID: Not available. Refer to individual constituents.

WATER: No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

No data for X-Fe.

Refer to data for ingredients, which follows:

OXALIC ACID:

Daphnia magna EC50 (48hr.) (mg/l): 25

Algae IC50 (72hr.) (mg/l): 80-790

log Pow (Verschueren 1983): 1.88372093

BOD5: 0.1

BOD20: 0.115

COD: 018

ThOD: 0.18

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

log Kow: -0.81 - -0.43

BOD5 if unstated: 0.085-0.14

COD: 0.126-0.18

ThOD: 0.18

Toxicity Fish: TLm(24)4000mg/L

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise at an effluent treatment plant.
- Use soda ash or slaked lime to neutralise.
- 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

S6

REGULATIONS

Oxalic acid (CAS: 144-62-7) is found on the following regulatory lists:
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

water (CAS: 7732-18-5) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

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