

MATERIAL SAFETY DATA SHEET

CHROMAC

1. PRODUCT AND COMPANY IDENTIFICATION.

Product name: CHROMAC
Product type: CCA Type C oxide liquor
Supplier: **TIMBERLIFE (PTY) LTD**
PO Box 73117, Lynnwood Ridge, 0040, South Africa
Tel.: + 27-12-803 8595
Fax: + 27-12-803 8462
e-mail: timberlife@icon.co.za

2. COMPOSITION/INFORMATION ON INGREDIENTS.

CHROMAC is a concentrated mixture of chromium trioxide, copper oxide and arsenic pentoxide in water, conforming to SANS 673 – 1987 and AWPA Standard P5, Type C.

Chemical nature and use.

A waterborne liquid concentrate containing chromium, copper and arsenic oxides for use as a permanent wood preservative against decay fungi, wood-boring insects, drywood termites, subterranean termites and marine borers and is suitable for use under all hazard classes when applied to timber by pressure impregnation in accordance with the required standards.

Active ingredient content:

Compound	Expressed as active oxides
Chromium trioxide (CrO ₃)	279 g/kg (nom.)
Copper oxide (CuO)	113 g/kg (nom.)
Arsenic pentoxide (As ₂ O ₅)	199 g/kg (nom.)
Total	591 g/kg (min.)

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3. HAZARD IDENTIFICATION.

Most important hazards:

- Human health effects.

Highly toxic if swallowed.

Poisonous by inhalation of spray mist or vapours.

Corrosive to the eyes, skin and respiratory tissue and may cause severe irritation.

- Environmental effects.

Toxic to fish, bees and wildlife.

Harmful to the environment as a result of potential bioaccumulation.

- Physical and chemical hazards.

Thermal decomposition results in release of toxic oxides and highly toxic arsine gas.

Reacts with some metals, e.g. aluminium, zinc and galvanised iron to produce toxic gases.

4. FIRST-AID MEASURES.

Inhalation:

Remove patient to fresh air immediately. Perform artificial respiration if breathing has stopped.

Get medical attention immediately.

Skin contact:

Remove any contaminated clothing immediately. Wash affected areas with soap and copious amounts of water for at least 15 minutes or until no traces of the chemical remains. Consult a medical doctor if irritation persists.

Eye contact:

Immediately wash with copious amount of water, occasionally lifting upper and lower eye lids, for at least 15 minutes or until no traces of the chemical remains. Get medical attention immediately.

Ingestion:

Do not induce vomiting. If conscious and able to swallow, give large amounts of water or milk and ensure that respiration is not depressed. Get medical attention immediately. Should vomiting occur, prevent aspiration by keeping the patient's head below his hips.

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Note to physician:

Gastric flush immediately. In severe poisoning, treat with Dimercapol (B.A.L) @ 3 to 4 mg/kg by deep intramuscular injections every 4 hours for 2 days. Next day, repeat every 6 hours and thereafter every 12 hours until recovery. Intravenous fluid should then be given to correct dehydration and electrolyte balance.

5. FIRE-FIGHTING MEASURES.

Extinguishing media:

Water spray, dry chemical powder, carbon dioxide or foam may be used.

Specific hazards:

Inhalation of toxic gases and vapours must be avoided.

Specific methods:

Keep unauthorised people away and prevent entry to area. Stay upwind and avoid breathing any fumes.

If possible, move containers away from fire. Apply extinguishing media from a safe distance. If water is applied, dyke run off water for safe disposal. Dispose of any damaged containers and debris in a safe way.

Protection of fire fighters:

Apart from proper protective clothing, fire fighters must wear a self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Do not inhale spray mist or vapours and avoid contact with eyes and skin.

Environmental precautions:

Avoid contamination of rivers, dams or canals. Prevent spillage from entering drains and ditches.

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Methods for cleaning up:

Block drains and contain with sandbags etc. Bail out any pools of solution into clean, dry plastic containers. Use sawdust or fly ash to absorb any excess liquid and neutralise with lime.

Place neutralised waste and contaminated material into containers for safe disposal. Establish cause of spillage and rectify immediately.

7. HANDLING AND STORAGE

Handling:

Handle with extreme care.

Do not inhale spray mist or vapours. Avoid contact with eyes and skin and any form of ingestion.

Wear suitable protective clothing such as overalls, boots, rubber gloves, goggles, nose and mouth protection and wash contaminated clothing daily.

Wash thoroughly with soap and water after use or accidental skin contact.

Do not eat, drink or smoke during use.

Avoid contamination of food, foodstuffs, eating utensils and drinking water.

Do not discharge residues or any of the product into rivers, dams and canals.

Do not use or despatch treated timber until at least 24 hours after treatment.

Storage:

Store in a cool, dry place away from food and foodstuffs and incompatible substances.

Store under lock and key and keep out of reach of children, uninformed persons and animals.

Store only in sealed polypropylene, polyethylene or stainless steel containers (Packaging Group II).

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:

Use only in properly designed and installed vacuum/pressure impregnation plants, operated in accordance with the appropriate codes of practice, namely SANS 10005: 2006 ("The preservative treatment of timber"), SABS 10255: 2003 ("Safety in the wood preservation industry") and SANS ARP 039: 1997 ("Environmental Guidelines for Industrial Wood Preservation").

Treatment plant operations must be conducted in a safe manner to reduce health and environmental risk.

Adequate ventilation must be provided for to control inhalation exposure below the occupational exposure limits given below.

Control parameters:

Occupational exposure limits (Source : IRPTC data):

Component	Exposure limits as *:
Chromic acid (CrO ₃)	0,05 mg/m ³ Cu
Copper oxide (CuO)	1,00 mg/m ³ Cr
Arsenic pentoxide (As ₂ O ₅)	0,20 mg/m ³ As

* Over time weighted average (TWA) of 8 hours. Exposures outside the above limits require the use of suitable respiratory protection.

Personal protective equipment:

Respiratory protection

A filter-type respirator must be worn if any risks of inhalation of spray mist or vapours exist.

Hand protection

Synthetic rubber or PVC gloves must be worn during handling and use of the product.

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Eye protection

Splash proof safety goggles or a face shield must be worn when handling the product.

Skin and body protection

Acid resistant overalls and boots must be worn during handling and use of the product.

Hygiene measures

Contaminated clothing must be washed daily. A quick drench shower and eye wash fountain in the immediate area must be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid concentrate.
Colour:	Dark brown.
Odour:	Slight metallic.
pH:	2 (20 g/l solution in water).
Temperature stability:	Completely stable up to 40°C.
Density:	1,8 kg/l (@ 20°C).
Solubility:	Completely soluble in water.
Water-insoluble matter:	Less than 5 g/kg.

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions.

Conditions to avoid:

Avoid thermal decomposition.

Materials to avoid:

Avoid contact with aluminium, zinc and galvanised iron.

Avoid contact with organic solvents.

Avoid reaction with strong alkali, acids, oxidising agents and halogens.

Hazardous decomposition products:

Toxic oxides and highly toxic arsine gas.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Component	Oral LD ₅₀ (rat)
Chromium trioxide (CrO ₃)	320 mg/kg
Copper oxide (CuO)	470 mg/kg
Arsenic pentoxide (As ₂ O ₅)	48 mg/kg
Formulation (CCA liquid concentrate)	c.a 150 mg/kg

Local effects:

- Skin contact: Redness and irritation will occur with sensitization dermatitis on repeated exposure.
- Eye contact: Severe irritation and redness will occur with the development of corneal burns if not treated timeously.
- Inhalation: Irritation of the respiratory tissue will occur, causing pain in the nose and throat. Shortness of breath, coughing and headache will be experienced.
- Ingestion: Severe irritation of the gastrointestinal tract will occur. Symptoms of poisoning include burning pain in oesophagus and stomach, nausea, vomiting, headache, watery or bloody diarrhoea, dehydration with intensive thirst and muscular cramps, occasional convulsions, feeble pulse, cold clammy skin and unconsciousness in the case of severe poisoning.

Chronic toxicity:

- Skin contact: On prolonged exposure, sensitization dermatitis in the form of skin discolouration, blistering and burns may occur which may lead to poisoning.
- Eye contact: May cause conjunctivitis, severe inflammation and discolouration of the cornea on repeated exposure.
- Inhalation: Ulceration of the nasal and oral mucosa with an inflamed and sore throat and nose bleeds may develop on prolonged exposure.
- Ingestion: Chronic exposure may cause serious damage to the gastrointestinal tract, stomach, central nerve system, cardiovascular system, kidneys and liver, eventually

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resulting in death.

Specific effects:

Both arsenic and chromium VI are considered human carcinogens.

12. ECOLOGICAL INFORMATION

Environmental effects:

Toxic to fish, bees and wildlife. A soil and water pollutant.

Mobility:

CCA oxides are water soluble and will be dispersed in soil and water at a rate which will depend on the amount and concentration of the spill.

Persistence/degradability:

None of the components are biodegradable.

Bioaccumulation:

As a result of non-degradability, components will tend to accumulate on organic matter in soil and water.

Ecotoxicity:

Toxic to both plant and aquatic life. Bioaccumulation may lead to ecological disturbances.

13. DISPOSAL CONSIDERATIONS

Chemical waste:

Dispose of in accordance with prevailing disposal regulations by a registered toxic waste disposal company.

Avoid contamination of soil and water by waste product.

Treated wood waste:

Dispose of in an approved landfill.

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Burning may be carried out provided that;

- The bonfire shall be at least 100 metres from any inhabited building.
- No more than half a tonne of treated wood shall be burnt in any one fire and not more than one tonne per day burnt on one site.
- Ash produced from burning must be disposed of by a registered toxic waste disposal company.
- CCA-treated wood shall not be burnt on domestic fires and must not be used for domestic heating, cooking or for charcoal production.

Packaging material:

Do not re-use empty containers for any other purpose.

Rinse the empty container three times with a volume of water equal to at least one tenth of that of the container. Add rinsings to the contents of the mixing tank.

Offer rinsed containers for recycling or perforate and dispose of at an approved waste disposal facility.

14. TRANSPORT INFORMATION

Land:

- **UN classification no.:**
1556 (liquid arsenic compounds n.o.s.)
- **IMCO No:**
6.1(b)
- **BTN (Harmonized Tariff Code):**
3808.2000
- **Emergency action code:**
2 X

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Sea:

- **IMO/IMDG, p 8151**

Class : 8

Precautionary transport measures:

Toxic material. Keep away from food and foodstuffs.

15. REGULATORY INFORMATION

Compliance with the following South African regulations must be adhered to:

- Water Act (Act No 54 of 1956).
- National Water Act (Act No 36 of 1998)
- Health Act (Act No 63 of 1977).
- Environment Conservation Act (Act No 73 of 1989).
- Hazardous Substances Act of 1993.
- Occupational Health and Safety Act of 1998.
- Provincial Ordinances and Local By-laws.

16. OTHER INFORMATION

This product is **for industrial use only** and is to be applied to timber as a wood preservative in accordance with the required procedures and standards.

It is the responsibility of the user to ensure compliance with local regulations when using this product.

Please consult the product label before use.

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the user or suitability of the product.