

SAFETY DATA SHEET

Section 1 Identification of the material and the supplier

Product Name: **Sarmix Oxcel C**
Product Code:
Product Use: **Timber preservative for protection against termite and insect attack and fungal decay**
Restriction of Use: Refer to Section 15
New Zealand Supplier: **Koppers Performance Chemicals New Zealand**
Address: **14 Mayo Road,
Wiri,
Auckland, New Zealand**
Telephone: (09) 277 7770
Fax Number: (09) 277 8011
Emergency Telephone: **0800 243 622**
Date of SDS Preparation: **15 January 2015 – version 6**

Section 2 Hazards Identification

This substance is hazardous according to the HSNO (Minimum Degrees of Hazard) Regulations 2001.

EPA Approval No. HSR000851

Pictograms



Toxic Chronic Corrosive Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
			Category 3
6.1C (oral)	H301	Toxic if swallowed.	
6.1B (inhalation)	H330	Fatal if inhaled.	Category 2
6.5A	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	Category 1
6.5B	H317	May cause an allergic skin reaction.	Category 1
6.6A	H340	May cause genetic defects.	Category 1A
6.7A	H350	May cause cancer.	Category 1A
6.8A	H360	May damage fertility or the unborn child.	Category 1A
6.9A (Single exposure)	H370	Causes damage to lungs, liver, kidney, eyes, skin, GI Tract, central nervous system	Category 1
6.9A (Repeated exposure)	H372	Causes damage to lungs, liver, kidney, eyes, skin, GI Tract, central nervous system through prolonged or repeated exposure	Category 1
8.1A	H290	May be corrosive to metals.	Category 1
8.2B	H314	Causes severe skin burns and eye damage.	Category 1B
8.3A	H318	Causes serious eye damage.	Category 1
9.1A	H400	Very toxic to aquatic life.	Category 1
9.2B	H422	Toxic to the soil environment.	-
9.3B	H432	Toxic to terrestrial vertebrates.	-
9.4B	H442	Toxic to terrestrial invertebrates.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original container.
P260	Do not breathe mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective PVC or Rubber gloves, PVC overalls and boots and face shield.
P281	Use personal protective equipment as required.
P284	Where an inhalation risk exists wear respiratory protection in the form of a Type B (Inorganic gases and vapours) respirator or an airline respirator.
P285	In case of inadequate ventilation wear respiratory protection in the form of a Type B (Inorganic gases and vapours) respirator or an airline respirator.

Response code	Response Statement
P310	Immediately call a POISON CENTRE (0800 POISON / 0800 764 766) or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P320	Specific treatment is urgent (see supplemental first aid instructions on product label or section 4 of this SDS).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE (0800 POISON / 0800 764 766) or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P304 + P341	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311	IF exposed: Call a POISON CENTRE (0800 POISON / 0800 764 766) or doctor/physician.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE (0800 POISON / 0800 764 766) or doctor/physician.

Storage Code	Storage Statement
P405	Store locked up.
P406	Store in polylined drum or steel drum with plastic liner
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal Code	Disposal Statement
P501	Triple rinse drums or IBC's with water and return washings to treatment system for use. Drums or IBC's should be returned to the supplier for recycling or punctured or crushed for disposal at an approved landfill site.

Section 3 Composition / Information on Ingredients

Hazardous Ingredients	Wt%	CAS Number
Chromium as CrO ₃	30-60%	1333-82-0
Arsenic acid as As ₂ O ₅	30-60%	7778-39-4
Copper present as CuO	10-30%	1317-38-0

Section 4 First Aid Measures

First Aid Facilities: Ensure an eye wash and safety showers are available and ready for use.

Seek medical assistance immediately. Contact the National Poisons Centre (0800 764 766) for advice.

Routes of Exposure:

- IF SWALLOWED** Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Rinse mouth. Give about 500 ml of milk followed by plenty of water to be sipped slowly. Contact the National Poisons Centre (0800 764 766) for advice and seek immediate medical attention. **HAVE THIS SDS AVAILABLE.**
- IF IN EYES** In case of contact with eyes, flush immediately with running water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical assistance immediately. Contact the National Poisons Centre (0800 764 766) for advice.
- IF ON SKIN (or hair)** Remove/Take off immediately all contaminated clothing and footwear. Wash affected area immediately with running water/shower for at least 15 minutes. Seek immediate medical assistance. If skin irritation or rash occurs: Get medical advice/attention.
- INHALATION** Remove to fresh air and keep at rest in a position comfortable for breathing. Lay patient down and keep warm and rested. If experiencing respiratory symptoms: Call the **NATIONAL POISONS CENTRE 0800 764 766** or doctor/physician. If breathing is shallow or has stopped, ensure airway is clear and apply resuscitation. **Do not use direct mouth-to-mouth method if victim has ingested or inhaled the substance.** Use alternative respiratory method or proper respiratory device. Administer oxygen if breathing difficult.

Advice to Doctor:

Treat for arsenic poisoning. Give fluids and induce emesis, followed by lavage and catharsis (sodium sulphate), then administer appropriate dosage of activated charcoal including a cathartic. If poisoning is acute or ingestion more than 48 hours previous, use chelation therapy, nutritional supplements and maintain fluid intake.

Section 5 Fire Fighting Measures

Hazard Type	Toxic, Corrosive, Ecotoxic, Non-combustible liquid.
Hazards from decomposition products	Will not burn but heat may produce highly toxic fumes/vapours of arsenic oxides (AsOx), arsine (AsH ₃), chromium and copper oxides. When any large containers, e.g. tankers, are involved in a fire, consider evacuation 800 m in every direction.
Suitable Extinguishing media	For fires use dry chemical, CO ₂ or water spray. Do not use water jets. Prevent run off from polluting waterways.
Precautions for fire-fighters and special protective clothing	When any large tanks, tankers or IBC's are involved in a fire, consider evacuation upwind 800 metres.
HAZCHEM CODE	2XE

Section 6 Accidental Release Measures

Land Spill or Leaks

In event of spill clear area of unprotected personnel and move upwind by at least 250 m.

Immediately contact Police or Fire Service.

Wear full body protective clothing with breathing apparatus.

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

If spill enters waterways contact Regional Authority.

Collect recoverable product by pumping into sealable containers for recycling.

Contain spill by absorbing with sand, earth or other absorbent material. Do not use sawdust for containing CCA concentrate. Absorb remaining residues with lime or cement and place in suitable containers for disposal. Contaminated soil should be excavated and treated with lime or cement. Dispose of by liaising with a waste disposal company or by dumping at a site approved by local authorities.

After clean-up operations, decontaminate and launder all protective clothing and equipment before storing and reusing.

Burning treated timber is not recommended, since various harmful decomposition products may be released.

Ash residue will also contain soluble toxic metals. It is recommended that treated timber be buried at an approved landfill.

Water Spill or Leaks

Serious loss of aquatic life may result.

Ensure that non-protected personnel are removed from the area. Eliminate or isolate the source of leak or spill. Endeavour to contain the contaminated water by pumping out to waste tanks. If not feasible, block off all but the main drainage routes for the contaminated plume. Immediately advise the nearest Regional Council Pollution Control office.

Section 7 Handling and Storage

Handling Advice:

This product is **Tracked** under the HSNO Tracking Regulations 2001. An **approved handler** is required to be available where this product is stored or used and where the product is moved from one place to another.

- Read label and SDS before use.
- Do not handle until all safety precautions have been read and understood.
- Keep only in original container.
- Do not breathe mist, vapours or spray.
- Wash hands and face thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective PVC or Rubber gloves, PVC overalls and boots and face shield.
- Where an inhalation risk exists wear respiratory protection in the form of a Type B (Inorganic gases and vapours) respirator or an airline respirator.

Conditions for Safe Storage

- UN 2994, PG II, Arsenical Pesticide, Liquid, toxic N.O.S, Hazchem 2XE, DG Class 6.1, HAZCHEM code 2XE and must be stored and transported accordingly.
- Keep out of reach of children.
- Store locked up.
- Store in polylined drum or steel drum with plastic liner.
- Store in well ventilated area.
- Store in a bunded area.
- Store in secure area out of reach of children and unauthorised persons.
- Store away from strong acids or alkalis.
- Store away from foodstuffs and animal feeds.
- Protect containers from physical damage, e.g. vehicle impact.
- Keep containers securely sealed.
- Check regularly for spills and leaks.
- Product is corrosive to metals.
- Do not store at temperatures above 40°C

Section 8	Exposure Controls / Personal Protection
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WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	CAS #	TWA ppm	mg/m ³	STEL ppm	mg/m ³
Arsenic & soluble compounds as As (A1 CARCINOGEN)		-	0.05	-	-
Chromium (VI) compounds, as Cr (bio)					
Water soluble (sen)		-	0.05	-	-
Certain water insoluble (sen, A1 CARCINOGEN)		-	0.05	-	-
Copper fume		-	0.2	-	-
Dusts & mists, as Cu		-	1	-	-

Workplace Exposure Standard – Time Weighted Average (WES-TWA). *The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure.* Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). *The 15-minute average exposure standard.* Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. (A1 CARCINOGEN) *Confirmed human carcinogen.* (A2 CARCINOGEN) *Suspect human carcinogen.* (A3 CARCINOGEN) *Confirmed animal carcinogen with unknown relevance to humans.* (2001) *2001 change.* (skin) *Skin absorption.* (sen) *Sensitiser.* (bio) *Exposure can also be estimated by biological monitoring.*

Engineering Controls:

Local exhaust ventilation required. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Ventilate confined spaces before entry. Use forced air breathing apparatus if mist or vapour present.

Personal Protective Equipment:

Eyes	Wear goggles with side shields. Avoid wearing contact lenses.
Hands and Skin	Wear PVC or rubber gloves, PVC boots and overalls when manufacturing or handling the concentrated product.
Respiratory	Where an inhalation risk exists, wear a Type B (Inorganic gases and vapours) respirator or an airline respirator. Use forced air breathing apparatus when welding metal contaminated with substance. Fumes are toxic.
General	At the end of the job, wash gloves and remove, then remove goggles and wash, then remove other protective clothing, finally remove respirator. If using a cartridge type respirator, cartridges should be removed and discarded. If the respirator is disposable, it should be discarded. If the respirator is reusable, it should be thoroughly cleaned as per the manufacturer's instruction. Clothing must be changed when contaminated. Clothing must be laundered daily by the employer at an appropriate laundry after each days work. Contaminated clothing should not be laundered with other clothing. Wash hands and face before eating or drinking, smoking, using the toilet or at the end of a shift.

Section 9 Physical and Chemical Properties

Appearance	Dark black/yellow water based liquid
Odour	Slight metallic odour
Odour Threshold	Not applicable
pH	<1
Boiling Point	>100°C
Melting Point	Not applicable
Freezing Point	Not applicable
Flash Point	Not applicable
Flammability	Non Flammable
Upper and Lower Exposure Limits	Not available
Vapour Pressure	Not available
Relative Vapour Density (air=1):	>1 g/mL
Specific Gravity	1.80 @ 20°C
Solubility in water	Soluble in all proportions
Partition Coefficient:	Not available
Auto-ignition Temperature	> 200°C
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10 Stability and Reactivity

Chemical Stability	Stable. Does not self-react or polymerise.
Conditions to Avoid	Temperatures above 40°C.
Incompatibility	Avoid reaction with strong alkalis and acids, oxidising agents and halogens. Reacts with some metals e.g. aluminium, zinc or galvanised iron to form toxic arsine gas .
Hazardous Decomposition Products	Toxic fumes of arsenic trioxide and arsine may be formed in a fire.

Section 11 Toxicological Information

Arsenic Acid:	Oral LD ₅₀ (rat) 48 mg / kg bw
Chromic Oxide:	Oral LD ₅₀ (rat) 52 mg / kg bw
Cupric Oxide:	Oral LD ₅₀ (rat) 470 mg /kg bw
Acute Oral Toxicity	LD ₅₀ Rat (oral) 69 mg / kg bw (mixture rule)
Acute Dermal Toxicity	LD ₅₀ Rat (oral) 67 mg / kg bw (mixture rule)

Acute Effects:

Swallowed	Toxic if swallowed.
Dermal	Not applicable
Inhalation/Respiratory	Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Eye	Causes serious eye damage.
Skin	Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Chronic Effects:

Carcinogenicity	May cause cancer.
Reproductive Toxicity	May damage fertility or the unborn child.
Germ Cell Mutagenicity	May cause genetic defects.
Systematic	Not applicable.
STOT/SE	Causes damage to lungs, liver, kidney, eyes, skin GI Tract and central nervous system.
STOT/RE	Causes damage to lungs, liver, kidney, eyes, skin GI Tract and central nervous system through prolonged or repeated exposure.

CHROMATES - CHROMIUM PRODUCTS: Asthma sufferers, respiratory impaired or previously sensitized (respiratory or skin) individuals are advised to avoid all exposure to chromium or chromate based products.

ARSENIC – ARSENIC PRODUCTS: Persons with existing diabetes, cardiovascular diseases, allergic or other skin diseases, neurologic, hepatic or renal lesions in arsenic work are at special risk.

COPPER – COPPER COMPOUNDS: Copper compounds may be toxic by inhalation, ingestion, skin or eye exposure. Copper salts are particularly irritating. INGESTION - Acute ingestion of copper salts can cause irritation, severe nausea and vomiting, salivation, abdominal pain, epigastric burning, hemolysis, gastrointestinal bleeding with hemorrhagic gastritis, hematemesis and melena, anemia, hypotension, jaundice, seizures, coma, shock and death. Hepatic and renal failure may develop several days after acute ingestion. Methemoglobinemia may rarely occur. Copper may produce a metallic or sweet taste. DERMAL - Skin exposure may cause irritation, itching, eczema, allergic contact dermatitis, hypersensitivity, and a greenish discoloration of the hair, teeth and skin.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an SDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply suitable control measures where appropriate.

Section 12 Ecotoxicological Information

HSNO Classification 9.1A (very toxic to aquatic life with long lasting effects)
 9.2B (Toxic to the soil environment)
 9.3B (Toxic to terrestrial vertebrates)
 9.4B (Toxic to terrestrial invertebrates)

Ecological Toxicity Summary Solution is acutely toxic to aquatic life and may endanger wildlife or domestic animals. Marine pollutant.

ECOTOXICITY VALUES:

Aquatic ecotoxicity			
	Fish LC₅₀	Crustacea EC₅₀ (mg/L)	Algae/plant EC₅₀ (mg/l)
Arsenic	LC ₅₀ Pimephales promelas (fathead minnow, juvenile) 10,556 ug/l/336 hr. [USEPA; Ambient Water Quality Criteria Doc: Arsenic p.B-24 (1980) EPA 440/5-80-021]**PEER REVIEWED**	LC ₅₀ Daphnia magna 4,340 ug/l/96 hr. [USEPA; Ambient Water Quality Criteria Doc: Arsenic p.7 (1984) EPA 440/5-84-033]**PEER REVIEWED**	NA
Copper (II)	LC ₅₀ Oncorhynchus kisutch (coho salmon) 286 ug/l/96 hr [Buckley WJ; Water Res 17: 1929 as cited in USEPA; Ambient Water Quality Criteria Doc: Copper p.71 (1985) EPA 440/5-84-031]**PEER REVIEWED**	NA	EC ₅₀ Selenastrum apricornatum (green alga) 85 ug/l/14 days /Cell volume bioassay/ [Christensen ER et al; Water Res 13: 79 (1979) as cited in USEPA; Ambient Water Quality Criteria Doc: Copper p.60 (1985) EPA 440/5-84-031]**PEER REVIEWED*
Hexavalent Chromium	LC ₅₀ Pimephales promelas (fathead minnow) 33,200 ug/l, flow-through, measured, water hardness of (235 mg/l as calcium carbonate), 96 hr [Broderius SJ, Smith LL; J Fish Res Board Can 36: 164 (1979) as cited in USEPA; Ambient Water Quality Criteria Doc: Chromium p.B-19 (1980) EPA 440/5-80-035]**PEER REVIEWED**	NA	NA

Environmental Fate:

Soil Chromium in the soil may be transported from soil through runoff and leaching of water. Will biodegrade slowly. Bioaccumulation is dependent on soil type. The mobility of arsenic in clay soils is low to moderate but much higher for loamy and sandy soils. The max adsorption of As(V) on kaolinite and montmorillonite is pH 5; sorption of As(III) increases beyond this pH and at pH 8 more As(III) is sorbed than As(V). At high pH, both oxidation states of arsenic will be more mobile in soil. The potential for volatilization of arsenic compounds from moist surfaces varies greatly. Dissociated arsenic compounds may be sorbed by soil or may form strong complexes in solution. These arsenic compounds are not expected to volatilize from moist soil surfaces. However, arsenic compounds in soil may be methylated by microorganisms and subsequently lost by volatilization. Toxic to microorganisms. May bioaccumulate.

Water Chromium (VI) may be reduced to Chromium (III) by organic matter present in water, and may eventually deposit in sediments. Arsenic compounds -inorganic species of arsenic occur mainly as As(V) in oxidizing environments such as surface water and As(III) under reducing conditions in groundwater. Soluble forms of arsenic move with water and may be carried long distances. However, arsenic strongly sorbs onto sediments. In acidic and neutral waters, As(V) is extensively adsorbed, while As(III) is relatively weakly adsorbed. In waters with a high pH, both oxidation states are relatively weakly adsorbed. Sorbed As(V) in sediments may be remobilized if conditions become sufficiently reduced for As(V) to form As(III). Arsenic compounds are methylated by bacteria and fungi to yield dimethyl and trimethylarsines. Methylation is important in the transfer of arsenic from the sediment to the water and to the atmosphere. Toxic to microorganisms. May bioaccumulate.

Trace metals (aluminum, arsenic, cesium, chromium, copper, iron, lead, nickel, zinc, etc.) are not persistent in surface waters and have half lives which are typically less than 22 days. The primary mechanism of removal is sorption to particles, which settle to bottom sediments. It is, of course, well known that the sediments are the eventual repository for metals in the environment. Assessment of metals in sediments has been previously reviewed (Hansen et al., 1996 and USEPA, 1999) and is not assessed here. The data presented above indicates that the half-lives of metals generally vary from 22 days to less than 10 days depending on the fraction of the metal that is bound to particles. Environmental variables such as seasonal temperature and algal production can affect the halflife. Persistence of Metals, Dominic M. Di Toro (1,2) Paul R. Paquin (2) (1) Environmental Engineering Department Manhattan College, Riverdale, NY , (2) HydroQual, Inc Mahwah, NJ. [OECD guideline document] (Cross referenced with Copper fume CAS 7440-50-8, RISCC 2410)

Section 13 Disposal Considerations

Triple rinse drums or IBC's with water and return washings to treatment system for use.

Drums or IBC's should be returned to the supplier for recycling or punctured or crushed for disposal at an approved landfill site.

Section 14 Transport Information

This substance is classified as a dangerous good for Land Transport in New Zealand according to NZS5433: 2012.

Road, Rail, Marine and Air Transport

UN No : 2994
Hazchem Code : 2XE
Class-primary : 6.1
Class secondary :
Packing Group : II
IMDG Code : 6219
Proper Shipping Name : Arsenical Pesticide, Liquid Toxic N.O.S. (copper, chromium, arsenic timber preservative)

Under the NZ Land Transport Rule Dangerous Goods 2005 this product must not be loaded into any container alongside food items.

In Schedule 1 of the Rule a maximum of 50 litres may be transported on land as a tool-of-trade, agricultural use or for commercial purposes without a DG endorsement on the driver's license or vehicle placarding (Class 6.1 PGII)

Section 15 N.Z. Regulatory Information

EPA Approval No. HSR000851

HSNO CONTROLS

Trigger quantities for this substance

	Trigger Quantity
Approved Handler	Yes, any quantity
Location Certificate	Not required
Tracking Trigger Quantities	Yes, any quantity
Signage Trigger Quantities	100L (9.1A)
Emergency Response Plan trigger Quantities	100L (9.1A)
Restrictions of Use	No persons may use this substance for any purpose other than the treatment of timber.

For quantities over 450 L there must be secondary containment of at least 110% of the contained volume and an Emergency Response Plan in place.

For quantities of 250 L or more stored in one place for more than 18 hours there must be HSNO compliant signage (Hazchem) to alert emergency services and others of the hazard on the site.

Section 16 Other Information

1. HSNO Approved Code of Practice: Preparation of Safety Data Sheets, September 2006.

Disclaimer:

This document has been compiled by TCC (NZ) on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the New Zealand proprietor, Koppers Performance Chemicals New Zealand, phone 64 9 277 7770, www.kopperspc.co.nz if further information is required.

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