DATE OF ISSUE: 22/02/2010
REVISED: 01/07/2024

SAFETY DATA SHEET

Safety Data Sheet according to WHS and ADG requirements

This substance is classified as **Hazardous** according to the criteria of Worksafe Australia

AOC2000 - DIESEL ENGINE COOLING SYSTEM TREATMENT

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Product Name	AOC2000
Product Code	AOC2000
Product Use	Automotive / Locomotive Inhibitor
Company Name	Australian Organic Coolants
Address	PO Box 768, Bungalow, Queensland, 4870 Australia
Telephone	61 7 4051 2400
Fax	61 7 4031 5490
Other Names	
Other Information	
Correct Shipping Name (Road/Rail)	Not applicable
UN Number:	Not listed
Class:	Not listed
Subsidiary Risk:	Not listed
Packaging Group:	Not listed
Hazchem Code	Not listed
Group Text EPG:	None
Poisons Schedule:	5

2. PHYSICAL DESCRIPTION / PROPERTIES

Information on Composition

Physical Data

Boiling Point	No data
Melting Point	No data
Vapour Pressure (pascals or mm of Hg at 25°C)	No data
Specific Gravity	1.10 – 1.13 at 25 deg c.
Flash Point	No flammable components
Flammable Limits	No data
Solubility in Water (g/L)	Completely miscible.
Appearance and Colour	A deep red liquid. Mild organic odour

Other Properties

pH: (neat) 11.2 – 12.l0

Ingredients:

Chemical Entity	**CAS No.:**	**Proportion:**
Sodium hydroxide solution	1310-73-2	Less than 10%
Sodium metasilicate	6834-92-0	Less than 10%
Sodium nitrite	7632-00-0	Approximately 5%
Sodium tetraborate pentahydrate	1301-9604	Less than 10%
Sodium mercaptobenzothiazole	-	Less than 5%
Other ingredients determined not to be hazardous, including water		To 100%

3. HAZARDS IDENTIFICATION / INFORMATION

Human Health Hazards ACUTE

Ingestion Can cause kidney damage (due to the borate). May be toxic if swallowed.

Eyes Can cause moderate irritation

Skin Can cause moderate irritation. Sodium mercaptobenzothiazole may be a skin sensitizer

Inhalation Mist or spray may cause irritation of respiratory tract and mucous membranes.

Chronic Chronic toxicity studies have not been conducted for this product. Repeated or prolonged skin contact may cause allergic contact dermatitis in susceptible individuals.

Sodium nitrite (a minor component) has shown reproductive effects in the offspring of the treated parents in experimental animal studies. These effects are non-transmissible. Bacterial assay mutation studies have been positive. Tumorigenic data is equivocal. Sodium nitrite has shown a potential for carcinogenicity in animals.
See also section 7 for toxicity data.

4. FIRST AID MEASURES

Ingestion	If swallowed, and if more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac Syrup APF. Contact a doctor or the Poisons Information Centre. If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.
Eye Contact	Immediately flush eyes with large amounts of water for at least fifteen (15) minutes. Seek medical attention.
Skin Contact	Remove contaminated clothing. Wash skin well with water and finally with soap and water. If irritation persists call a physician. Launder contaminated clothing before reuse.
Inhalation	Remove to fresh air. Treat symptoms. Call a physician. As with any chemical, ingestion, inhalation and prolonged or repeated skin contact should be avoided by good occupational work practice.
First Aid Facilities	The availability of an eye wash and safety shower is recommended.
Advice to Doctor	No specific antidote is known. Sodium nitrite (a minor component 5% w/w) causes formation of methaemoglobinaemia leading to cyanosis and possible death if ingested. Repeated ingestion of small amounts causes blood pressure to drop, rapid pulse, headaches, visual disturbances. Causes central nervous system effects (eg. Headaches, tremors, drowsiness and convulsions). Based on the individual reactions of the patient, the doctor's judgement should be used to control symptoms and clinical condition. Pregnant women are particularly sensitive to methaemoglobinaemia.

5. PRECAUTIONS FOR USE

Exposure Standards	Not established for the product. The following components have been assigned an exposure standard by Worksafe Australia (Exposure Standards for Atmospheric Contaminants in the Occupational Environment, October 1991). Sodium hydroxide (peak limitation) = 2mg/cubic m. Sodium tetraborate pentahydrate = 1mg/cubic m.
Engineering Controls	General ventilation is recommended.
Personal Protection	Use impermeable gloves and chemical splash goggles. Respiratory protection not normally needed, but avoid inhalation of mists or spray. For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a supplied air breather or a pressure demand, self contained breathing apparatus is recommended.
Flammability	Not flammable under conditions of use.

6. SAFE HANDLING INFORMATION

Storage	Avoid contact with amines, as N-nitrosamines (many of which cause cancer in laboratory animals) may be formed. Avoid contact with strong acids. (eg. sulphuric, phosphoric, nitric, hydrochloric, chromic, sulphonic) which can generate heat, splattering or boiling and the release of toxic fumes. Reaction of the sodium nitrite component with concentrated mineral acids can release toxic red-brown fumes of oxides of nitrogen. Avoid contact with aluminium and its alloys (neat product is corrosive to these metals). Storage tanks should be constructed out of mild steel, stainless steel or polyethylene.
Transportation:	This product is not regulated under the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Spills and Disposal:	Wear protective equipment as outlined in Section 5. Keep out of natural waterways. Absorb with neutral absorbent and place solidified material in drums for disposal. Flush residues to effluent system with plenty of water. Dispose of solidified waste in accordance with local, state and federal regulations.
Fire/Explosion Hazard:	If strongly heated, the solvent (water) may evaporate, and eventually, if strong heating continues, the residue may decompose to release carbon dioxide, carbon monoxide and oxides of nitrogen. Wear appropriate protective equipment.

7. OTHER INFORMATION

Acute Toxicity Studies:

Acute toxicity studies have not been conducted on this product, but acute studies have been conducted on a similar product. The results are shown below:

ACUTE ORAL TOXICITY (Albino rats)
LD50 = 3,362 mg/kg

PRIMARY SKIN IRRITATION TEST (Albino rabbits)
Skin irritation index Draize Rating : 0.5/8.0 minimal irritation

PRIMARY EYE IRRITATION TEST (Albino rabbits)
Eye irritation index Draize Rating: 16.7/110.0

COMPONENT TOXICITY
Sodium Nitrite:
Acute oral LD50 (rat) = 85 mg/kg
Sodium nitrite is present as a minor component (5% w/w)
Symptoms of exposure include darkening vision, headache, nausea, vomiting, light-headedness, sweaty skin that becomes cold. At sufficient doses, cardiovascular collapse, convulsions, coma and death.

Sodium tetraborate pentahydrate
Toxic properties of sodium borates include irritant effects when in contact with skin and mucous membranes of eyes, nose and other sites in the respiratory tract. Chronic absorption of small amounts causes mild gastroenteritis and dermatitis. Ingestion may cause vomiting and diarrhoea, possibly kidney damage.
Sodium tetraborate is present as a minor component (less than 7% w/w).

Sodium hydroxide
A skin and eye irritant. Has corrosive action upon all body tissue. Inhalation of the dust or concentrated mists of this compound can cause damage of the upper respiratory tract and lung tissue dependent upon severity of exposure. Ingestion either in solid or liquid form causes damage to the mucous membranes or other tissues with which contact is made.
Sodium hydroxide is present as a minor component (1% w/w).

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS)

Important Information

This SDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products.

This information is based on data available to Australian Organic Coolants from both our own technical sources and from recognized published references and is believe to be both accurate and reliable.

Australian Organic Coolants has made no effort to censor, nor conceal deleterious aspects of this product.

Since we cannot anticipate or control the many different conditions under which this information and our products may be used, each user should review these recommendations in the specific context of the intended application and confirm whether they are appropriate.

Due care should be taken to ensure that the use or disposal of this product and container are in compliance with Federal, State and Local Government regulations.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Australian Organic Coolants. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Contact Point

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END OF SDS