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Material Safety Data Sheet

SECTION 1	IDENTIFICATION			AIRX MIRACOIL
PRODUCT NAME:	AIRX MIRACOIL			
UN Number	1824 Corrosive liquid N.O.S.	HAZCHEM CODE	2R	
Dangerous Goods Class	Class 8 Corrosive. Classified as Dangerous Good according to the criteria of the ADG Code	NOHSC Australia classification	Classified as hazardous according to NOHSC Criteria	
Packaging Group	PG III	Poisons Schedule	Schedule 6 Poison using SUSDP criteria	
Primary Uses	Removal of corrosion, soot. Atmospheric deposits.	From air-conditioner coils &	Fans, filters, etc	
SECTION 2	COMPOSITION			
CHEMICAL DESCRIPTION		CAS No.	Proportion %	
Anti-oxidant, anti corrosion agent		7632-00-0	<10%	
Sequestrants		64-02-8	<10%	
Sodium hydroxide		1310-73-2	<10%	
Anionic surfactant		68604-71-7	<10%	
Anionic surfactant		68439-39-4	<10%	
Nonionic surfactant		127087-87-0	<10%	
Fragrance oil		5989-27-5	<5%	
Complex glycols		34590-94-8	<10%	
Deionised water		7732-18-5	Balance	
SECTION 3	HAZARDS IDENTIFICATION			
MOST IMPORTANT HAZARDS	Highly corrosive alkali. Use safe work practices to avoid eye or skin contact and avoid excessive overspray to reduce inhalation risk. When diluted, the risk of adverse health effects is greatly reduced.			
Adverse human health effects	<p>Eyes: Highly corrosive – severe irritant. Contact may result in pain, lacrymation, redness conjunctivitis, possible corneal burns and ulceration with the risk of permanent damage.</p> <p>Inhalation: Corrosive. Over exposure may result in irritation, coughing and bronchitis. At high level, exposure may result in ulceration, lung tissue damage, chemical pneumonitis and pulmonary oedema. Symptoms may be delayed following exposure.</p>			
	<p>Skin: Corrosive – strong irritant. Contact may cause rash dermatitis, blistering and severe burns.</p> <p>Ingestion: Corrosive. Ingestion may result in burns to the mouth and throat, nausea, vomiting and abdominal pain. Large doses may result in ulceration, unconsciousness and death.</p>			
Environmental effects	Effects expected to be transient however, large spillages may change the pH of waterway involved. Fish will die if the pH reaches above 10 (Bluegill mortality 10.5 and goldfish mortality 10.9).			
	Soils; May leach into groundwater with toxic effects on aquatic life as for water above.			

Physical and Chemical Hazards	This material is strongly alkaline.
Further hazards	
Carcinogen status	ACGIH: No significant ingredient is classified as carcinogenic by ACGIH.
Classification / Specific hazards	Class 8 Dangerous Good – Corrosive. Schedule 6 Poison. (Highly corrosive – strong irritant).
SECTION 4	FIRST AID MEASURES
Contact with eyes	Hold eyelids apart and gently flush continuously the eye(s) with clean water for at least 15 minutes or until advised to stop by a doctor or Poisons Information Centre (Phone: Australia 131 126). Keep casualty calm and warm.
Inhalation	Leave the area of exposure immediately – avoid also becoming a casualty if assisting the casualty. Keep the casualty warm and calm. If the casualty is not breathing apply artificial respiration and seek urgent medical attention.
Contact with skin	Remove contaminated clothing and gently flush the affected areas with clean water. Continue to flush with water until skin no longer feels soapy. Launder clothing involved before re-use.
Ingestion	Keep casualty warm and quiet. Do not induce vomiting. For further advice contact a doctor or Poisons Information Centre.
Other Information	For other reference information use SAA/SNZ HB76 Guide 37 or US Department of Transport Guide 154.
Advice to doctor	Treat symptomatically. Corrosive poisoning treatment: Immediate treatment preferably in a hospital is mandatory. In treating corrosive poisoning DO NOT INDUCE VOMITING; DO NOT ATTEMPT GASTRIC LAVAGE; and DO NOT ATTEMPT TO NEUTRALISE THE CORROSIVE SUBSTANCE. Vomiting will increase the severity of damage to the oesophagus as the corrosive substance will again come into contact with it. Attempting gastric lavage may result in perforating either the oesophagus or stomach. Immediately dilute the corrosive substance by having the patient drink milk or water. If the trachea has been damaged, tracheostomy may be required. For oesophageal burns begin broad spectrum antibiotics and corticosteroids therapy. Intravenous fluids will be required if oesophageal or gastric damage prevents ingestion of liquids. Long range therapy will be directed toward preventing or treating oesophageal scars and strictures.
SECTION 5	FIRE - FIGHTING MEASURES
EXTINGUISHING MEDIA	Non flammable and non combustible.
- Suitable	In the event of an adjoining fire the following preferred extinguishing media are Carbon Dioxide (CO ₂), Dry Chemical Powder (DCP), Foam and water.
	Use waterfog to cool intact containers and nearby storage areas.
- Not suitable	None known
Hazchem code	2R
Specific Hazards	None known
SECTION 6	ACCIDENTAL RELEASE MEASURES
Personal Precautions	Wear full PPE as full length PVC or rubber gloves or gauntlets, (where an inhalation risk exists – an air-line respirator), coveralls PVC apron and rubber boots.
	Ventilate and clear the area of all unprotected personnel and any visitors. Absorb spillage with sand, vermiculate or similar material. Collect and place in sealable containers for treatment and disposal.
Environmental Precautions	Prevent Miracoil from entering waterways as this may affect local pH in the waterway. It should be noted that the pH effect drops off rapidly due to dilution effects.
	Many fish species will die in alkaline pH conditions, ref aquatic toxicity of Sodium Hydroxide; 125ppm/96 hr/mosquito fish/TLm/Fresh water 180 ppm /23 hr/oysters/lethal/salt water
Methods for cleaning up	As for environmental precautions. After clean up is complete, traces may be hosed down into trade waste or sewer system.
Disposal considerations:	There are many varying pieces of legislation covering waste disposal and they differ by country, state, province and territory, so each user is expected to refer to laws in their area. For any disposal considerations including containers we recommend the end user

	to consider the following suggestions: reduce, re-use, recycle before disposal is considered.
SECTION 7	HANDLING AND STORAGE
Handling – PPE	<p><u>Respiratory Protection</u>: If there is a significant risk of dusts, vapours or mists accumulating in the area where this product is being used, a mask or respirator should be used. For assistance in selection of suitable equipment, recommended to consult AS/NZS 1715.</p> <p><u>Eye Protection</u>: Protective eyewear should be worn when using this product. Eye contact may prove painful if not dangerous and should be avoided if possible. For eye protection consult AS 1336 and AS/NZS 1337 for recommendations on eye protection.</p> <p><u>Gloves</u>: Non-permeable gloves (e.g. PVC or rubber) should be worn when handling this product. For assistance in selection of equipment consult AS 2161</p> <p><u>Safety Boots</u>: Wearing of safety boots in any industrial operation is advisory. For advice on Occupational Protective Footwear consult AS/NZS 2210.</p> <p><u>Work clothing</u>: Clean overalls or other protective clothing should be worn (use of aprons can be beneficial in many applications), for advice refer to AS 2919.</p>
Technical measures	For industrial situations, concentrations below the TWA value should be maintained and strict controls on levels below TLV are essential. Where a substance also has a C (Ceiling limit) maintenance of values below this level are critical. Values may reduced by process modification, use of local exhaust ventilation, preferably capturing substances at the source, or other methods.
STORAGE	
Technical measures	Ensure containers remain adequately labeled, protected from physical damage and sealed when not in use.
	Large storage areas should be bunded and have appropriate ventilation systems.
Storage conditions	Store in a cool dry well ventilated area, removed from oxidizing agents, strong acids and active metals, direct sunlight, heat sources and foodstuffs.
Incompatible products	Strong acids and oxidizing agents.
PACKAGING	
Packaging Materials	
- Recommended	Plastics; e.g.; LLDPE, HDPE, PP, PET, PVC
- Not Suitable	Active metals, glass or ceramics.
SECTION 8	EXPOSURE CONTROLS / PERSONAL PROTECTION
ENGINEERING MEASURES	Ensure foam spray is coarse with minimum overspray.
Ventilation	Ensure adequate natural ventilation, in poorly ventilated areas use mechanical ventilation.
	Use of safe work practices are recommended to avoid eye or skin contact or inhalation.
Personal protective equipment	
Hand protection	Impervious PVC or rubber gloves or gauntlets
Eye protection	Splash proof safety glasses, chemical goggles or full face shield.
Skin and body protection	Coveralls and safety boots, for continual exposure PVC apron is recommended.
SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
Appearance	
Physical state, form colour and odour.	Medium viscosity liquid with dark blue/green colour.
pH	13 – 14
Specific temperatures	
Freezing	Not available
Boiling	IBP ~100 °C (water)

Flammability characteristics	Non flammable – non combustible
Flash point	None detected
Oxidizing properties	Not available – none known
Specific gravity	1.102 g /cm ⁻³
Solubility	
In water	Completely miscible
In organic solvents	Not compatible with hydrocarbon solvents
SECTION 10	STABILITY AND REACTIVITY
Stability	STABLE under normal conditions
Hazardous reactions	Strong acids and oxidizing agents
Hazardous Polymerisation	Will not occur
Materials to avoid	Active metals, oxidizing agents and strong acids
Hazardous decomposition products	Water component is significant and avoids decomposition until water is driven off as steam. Once evaporated to dryness, and heated to decomposition toxic gases may be emitted such as Carbon Oxides.
SECTION 11	TOXICOLOGICAL INFORMATION
Acute toxicity	Sodium hydroxide: LD ₅₀ orl (rbt) = 500 mg/kg
	Sodium Nitrite (anti oxidant); LD ₅₀ orl (rat); 85 mg/kg
	Sequestering agent: LD ₅₀ ; ipr (mus); 330 mg/kg
Local effects	Sodium hydroxide: STEL 2 mg/m ³ (ceiling limit)
Sensitisation	None known. No cases reported.
SECTION 12	ECOLOGICAL INFORMATION
Mobility	MIRACOIL is a medium to low viscosity liquid (Ford cup ~8 seconds) and will rapidly run off on spillage and will rapidly soak into many soil profiles.
Food Chain	Not expected to bioaccumulate
Biodegradability	Product will biodegrade with time.
Ecotoxicity	See section 3 for alkaline effects. High pH can be toxic to fish.
SECTION 13	DISPOSAL CONSIDERATIONS
Waste from residues	Diluted material is expected to drain to waste treatment systems or trade waste. Drainage system will require pH control.
	Large quantities can be neutralized with dilute acid (e.g.; 3 mol/litre hydrochloric acid or similar) before disposal to drainage systems.
Contaminated Packaging	Rinse containers out thoroughly and then recycle, re-use or dispose to an approved solid waste tip or transfer station.
SECTION 14	TRANSPORT INFORMATION
Transport stability	Product is stable for transport purposes..
	Class 8 Corrosives cannot be transported with chemicals of class; 1 (Explosives), 4.3 (Dangerous When Wet), 5.1 (Oxidizing agents, 5.2 (Organic Peroxides), 6 (Toxics – where the toxic is a cyanide and the corrosive is an acid), 7 (Radio-actives), 8 (where products are acid/alkali) and foodstuffs.

UN Number	1824 (Corrosive Liquid N.O.S.)
Hazchem	2R
Dangerous Goods Class and Subsidiary Risk	Class 8 Corrosive
Poisons Schedule	Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
Packaging Group	PG II
SECTION 15	REGULATORY INFORMATION
LABELLING	
- Risk Phrases	R35; Causes Severe burns R41; Risk of serious damage to eyes
- Safety Phrases	S2; Keep out of the reach of children S26; In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. S37/39; Wear suitable gloves and eye/face protection.
Classifications / Symbols	Class 8 Corrosive
Notes	The effects from exposure to this product will depend on several factors including; frequency and duration of use; quantity and concentration used; effectiveness of control measures used, PPE used and the method selected for of application of this product. It is expected that end users will evaluate the risks and apply appropriate control measures before and during use of this product.
SECTION 16	OTHER INFORMATION
Uses	A completely acid free, safer to use formulation for the removal of corrosion, soot, atmospheric salts and other deposits that interfere with the efficient operation of air conditioner coils, filters, electronic precipitators, fan blades, squirrel cages and other refrigeration and cooling components. Cleans, deoxidizes and restores coils to their original brightness and heat exchange efficiency. Reduces air conditioner running time, thus saving electricity and reducing wear on motors, relays, switches, etc. Leaves no corrosive residue. Reduces future oxidation and pitting. Will not cause metal fatigue.

This MSDS summarises 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 MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. The responsibility for products sold is subject to our standard terms and conditions. Please read all labels carefully before using product.

CHEMIST:	G.A.L. Paul, FRACI, FICHEM, CPChem, CEng, CSci, CChem, MFACS (Life), MAIEnergy.	DATE PREPARED; DATE REVISED	March 10, 2007 March 2008
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General references:

1. ACGIH TLV's and BEI's (Threshold limit values and Biological exposure Indices)
2. SAA/NZS HB76, Dangerous Goods – Initial Emergency Response Guide
3. NOHSC: 2012, National Code of Practice for the labeling of Workplace Substances
4. NOHSC: 10005 List of Designated Hazardous Substances
5. NOHSC: 1008, Approved criteria for classifying hazardous substances.
6. Australian Code for the transport of Dangerous Goods by Road and Rail (ADG Code)
7. Hazardous Materials Handbook, Ponash & Greene
8. Hazardous Chemicals Desk Reference, Lewis
9. SAX's Dangerous Properties of Industrial Materials, Lewis
10. AS 1940, The storage and Handling of flammable and combustible liquids

11. Code of Practice for the Control of workplace hazardous substances
12. NOHSC: 2011, National code of practice for the preparation of Material Safety Data Sheets
13. Proprietary MSDS of contained raw materials from suppliers.
14. Also: AS/NZS 1715, AS2161, AS 1336, AS/NZS 2919, AS/NZS 2210
15. ChemAlert from RMT references to materials.