

KOOL-IT RADIATOR COOLANT

MATERIAL SAFETY DATA SHEET

MSDS No:		QUICK SMART PRODUCTS
Product Name:	KOOL-IT RADIATOR COOLANT & PRE-MIX	53 ASSEMBLY DRIVE
Manufacturers Code:	COOL1 COOL5 COOL 20 COOL205, PM1, PM5, PM20, PM205	TULLAMARINE VIC 3043
Date:	APRIL 1, 2006	(03) 9338 6655 (BH) (03) 9336 7945 (AH)

STATEMENT OF HAZARDOUS NATURE: HAZARDOUS ACCORDING TO CRITERIA OF WORKSAFE AUSTRALIA

COMPOSITION & INFORMATION IN INGREDIENTS:

CHEMICAL ENTITY	CAS NO.	PROPORTION
Ethylene glycol	107-21-1	VHIGH
CORROSION INHIBITORS	-	LOW
ANTIFOAM	-	VLOW
DENATONIUM BENZOATE*	3734-33-6	VLOW
Dyestuff	-	<u>VLOW</u>
		100%

PROPORTION (% weight per weight)

V HIGH > 60, HIGH 30 – 60, MED 10 – 29, LOW 1 – 9, V LOW <1

*Actual content at 10 ppm

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

UN NUMBER	NONE ALLOCATED
CLASS:	3.3 COMBUSTIBLE LIQUID
HAZCHEM CODE:	NONE ALLOCATED
PACKAGING GP	NONE ASSOCIATED
POISONS SCHEDULE NUMBER:	S5
EPG:	NONE ALLOCATED
USES:	Automotive radiator coolant.

PHYSICAL DESCRIPTION/PROPERTIES:

Specific Gravity (20C)	1.13
Flash Point	116.0C
Freezing Point C	-17
Rel Vapour Density (air-1):	N Av
Boiling Point C	180
Vapour Pressure 20 C	N Av
Decomp Point C	N Av
Flammability Limits (%)	N Av
Sublimation Point	N App
Autoignition Temp C	N Av
PH (50% soln)	7.5-9.0
% Volatile by volume	N Av
Viscosity @ 20C	25cP
Solubility in water (g/L)	Complete
Evaporation Rate	N Av (n-Butyl acetate=1)
(Typical values only – consult specification sheet) N Av – Not Available N App – Not applicable	
Appearance:	Green Liquid
Odour:	Mild
Solubility:	Soluble in water and alcohol
Reactivity:	Reacts with acids and oxidising agents

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HEALTH EFFECTS:

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled are:

ACUTE EFFECTS:

SWALLOWED:	Swallowing can result in signs of intoxication followed by nausea and vomiting.
EYES:	A mild eye irritant.
SKIN:	Contact with skin will result in mild irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.
INHALED:	Not normally an inhalation risk due to low vapour pressure at ambient temperatures. Inhalation of vapour or mists generated by heating, stirring or spraying can result in headaches and irritation of the throat.
CHRONIC EFFECTS: For ethylene glycol (1):	No effects on fertility were found in a long-term animal study dosed orally.
FIRST AID:	
Swallowed:	Immediately rinse mouth with water. Give plenty of water to drink. If more than 15 minutes from a hospital induce vomiting using fingers in the throat or Ipecac Syrup APF. Seek immediate medical assistance.
Eye:	Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Seek immediate medical assistance.
Skin:	Wash contaminated skin with plenty of water. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.
Inhaled:	Remove victim from exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Poison Information Centres in each State capital city can provide additional assistance for scheduled poisons.

ADVICE TO DOCTOR:

Treat symptomatically. Early diagnosis and treatment of ingestion is important. Ensure emesis is satisfactory. Test and correct for metabolic acidosis and hypocalcemia. Apply rapid and sustained diuresis when possible with the use of hypertonic mannitol. Evaluate renal status and begin haemodialysis if indicated.

TOXICITY:

No LD50 data available for product.	However for ethylene glycol (major constituent) (1):
	Oral LD50 (rat): 4700 mg/kg
	Oral Lowest Lethal dose (human): 786 mg/kg
	Oral Lowest Lethal Dose (human): 398 mg/kg – headache, nausea, vomiting
	Derma LD50 (rabbit): 9530 mg/kg
	Inhalation Lowest Toxic Concentration (human): 10,000 mg/m ³ – lachrymation, cough
	Estimated Lethal Dose (human): 100ml
SKIN (RABBIT):	Mild Irritant
EYES (RABBIT):	Mild Irritant

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The brain, lungs, liver and kidneys are the main organs affected by systemic intoxication and renal failure is the usual cause of death. Treatment is as for oxalate poisoning, as ethylene glycol is metabolised to oxalic acid which is deposited in various organs as calcium oxalate crystals.

Animal studies have shown that long term repeated exposure to high doses of ethylene glycol in the diet causes kidney injury.

Not mutagenic in several IN VITRO mutagenicity studies.

Birth defects were observed when ethylene glycol was administered to pregnant mice or rats in high doses in the diet or as a respirable aerosol. No effects were noted in the reproductive systems of male or female mice or rats nor on their reproductive performance.

Several long-term animal tests have found no carcinogenic effects.

PRECAUTIONS FOR USE:

EXPOSURE STANDARDS

No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

However, Exposure Standard for constituent:

TWA		STEL	
ppm	mg/m ³	ppm	mg/m ³
Ethylene glycol (vapour)			
-	60	-	120

As published by the National Occupational Health and Safety Commission (Worksafe Australia).

TWA – the time-Weighted Average airborne concentrations over an eight hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) – the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight – hour work day. According to current knowledge the concentrations should neither impair the health of, not cause undue discomfort to, nearly all workers.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. Exposure Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

ENGINEERING CONTROLS:

Used in well-ventilated area. Vapour at elevated temperatures heavier than air – prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

PERSONAL PROTECTION:

ICI PERSONAL PROTECTION GUIDE (NO 2 1990): CODE H – O/ALLS, SAFETY SHOES, GOGGLES, GLOVES (S), RESPIRATOR

Avoid skin and eye contact. Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If inhalation risk exists wear organic vapour respirator meeting the requirements of AS 1715 AND as 1716. Always wash hands before smoking, eating, drinking or using the toilet.

FLAMMABILITY:

Combustible liquid.

SAFE HANDLING INFORMATION:

STORAGE AND TRANSPORT:

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UN No: Classified as a 3.3 (Combustible Liquid) Dangerous Substance for the purpose of transport. Refer to relevant regulations for storage and transport requirements.

This material is a Scheduled Poison (S5) and must be stored, maintained and used in accordance with the relevant regulations. Store in cool place out of direct sunlight. Store away from acids, oxidising agents and foodstuffs.

Classified as a 3.3 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

SPILLS:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and inhalation of vapours. Contain using sand or soil – prevent run off into drains and waterways. Use absorbent (soil or sand, inert material, vermiculite). Collect and seal in properly labelled drums for disposal. Wash area down with detergent and excess water.

DISPOSAL:

Refer to State Land Waste Management Authority.

FIRE/EXPLOSION HAZARDS

Combustible liquid. Will burn if involved in a fire but not considered to be a significant fire risk. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

EXTINGUISHING MEDIA:

Water fog, (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).