

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

AUSTECH AC-7 HEAVY DUTY DIESEL ENGINE COOL. 50% PREMIX RTU

### SYNONYMS

"AC-7 Heavy Duty Diesel Engine Coolant 50% Premix RTU"

### PRODUCT USE

■ Used according to manufacturer's directions.

Automotive applications; concentrate; engine coolant.

### SUPPLIER

Company: Austech Chemicals Pty Ltd

Address:

45 Magnesium Street

Narangba

QLD, 4504

Australia

Telephone: +61 73 204 8511

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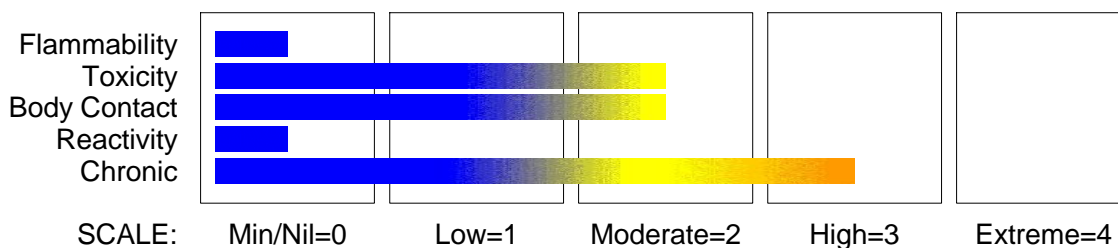
Email: nicholas@auschem.com

## Section 2 - HAZARDS IDENTIFICATION

### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.** According to the Criteria of NOHSC, and the ADG Code.

### CHEMWATCH HAZARD RATINGS



### RISK

Risk Codes

R22

R65

Risk Phrases

• Harmful if swallowed.

• HARMFUL- May cause lung damage if swallowed.

### SAFETY

Safety Codes

S23

S24

S25

S36

S37

S39

S51

S09

S53

S40

S07

S13

S26

S46

Safety Phrases

• Do not breathe gas/fumes/vapour/spray.

• Avoid contact with skin.

• Avoid contact with eyes.

• Wear suitable protective clothing.

• Wear suitable gloves.

• Wear eye/face protection.

• Use only in well ventilated areas.

• Keep container in a well ventilated place.

• Avoid exposure - obtain special instructions before use.

• To clean the floor and all objects contaminated by this material, use water.

• Keep container tightly closed.

• Keep away from food, drink and animal feeding stuffs.

• In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

• If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

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### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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NAME	CAS RN	%
ethylene glycol	107-21-1	20-40
corrosion inhibitor(s)		<5
anti- foam		<1
denatonium benzoate	3734-33-6	<1
dye		<1
additives		NotSpec
water	7732-18-5	30-60

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### Section 4 - FIRST AID MEASURES

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#### SWALLOWED

- - If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Avoid giving milk or oils.
- Avoid giving alcohol.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

#### EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### SKIN

- If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

#### NOTES TO PHYSICIAN

- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.
- Treat symptomatically.
- Polyethylene glycols are generally poorly absorbed orally and are mostly unchanged by the kidney.
- Dermal absorption can occur across damaged skin (e.g. through burns) leading to increased osmolality, anion gap metabolic acidosis, elevated calcium, low ionised calcium, CNS depression and renal failure.
- Treatment consists of supportive care.
- [Ellenhorn and Barceloux: Medical Toxicology].
- To treat poisoning by the higher aliphatic alcohols (up to C7):
- Gastric lavage with copious amounts of water.
- It may be beneficial to instill 60 ml of mineral oil into the stomach.
- Oxygen and artificial respiration as needed.
- Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.

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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

■ The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- foam.

### FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

### FIRE/EXPLOSION HAZARD

- - The material is not readily combustible under normal conditions.
  - However, it will break down under fire conditions and the organic component may burn.
  - Not considered to be a significant fire risk.
  - Heat may cause expansion or decomposition with violent rupture of containers.
- Combustion products include: carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.  
May emit poisonous fumes.  
May emit corrosive fumes.

### FIRE INCOMPATIBILITY

- None known.

### HAZCHEM

None

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## Section 6 - ACCIDENTAL RELEASE MEASURES

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### MINOR SPILLS

- Slippery when spilt.
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.

### MAJOR SPILLS

- Slippery when spilt.
- Moderate hazard.
- Clear area of personnel and move upwind.
  - Alert Fire Brigade and tell them location and nature of hazard.
  - Wear breathing apparatus plus protective gloves.
  - Prevent, by any means available, spillage from entering drains or water course.

**Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

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## Section 7 - HANDLING AND STORAGE

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### PROCEDURE FOR HANDLING

- - DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

### SUITABLE CONTAINER

- - DO NOT use aluminium or galvanised containers.
- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

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**STORAGE INCOMPATIBILITY**

- - Avoid reaction with oxidising agents.  
strong acids.  
strong alkalis.  
Avoid reaction with phosphorus pentasulfide.

**STORAGE REQUIREMENTS**

- - Material is hygroscopic, i.e. absorbs moisture from the air. Keep containers well sealed in storage.
- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE CONTROLS**

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Notes
Australia Exposure Standards	ethylene glycol (Ethylene glycol (vapour))	20	52	40	104	Sk
Australia Exposure Standards	ethylene glycol (Ethylene glycol (particulate))		10			Sk

The following materials had no OELs on our records

- denatonium benzoate: CAS:3734- 33- 6
- water: CAS:7732- 18- 5

**MATERIAL DATA**

AUSTECH AC-7 HEAVY DUTY DIESEL ENGINE COOL. 50% PREMIX RTU:

**ETHYLENE GLYCOL:**

- for ethylene glycol:  
Odour Threshold: 25 ppm

NOTE: Detector tubes for ethylene glycol, measuring in excess of 10 mg/m<sup>3</sup>, are commercially available. It appears impractical to establish separate TLVs for ethylene glycol vapour and mists.

**DENATONIUM BENZOATE:**

■ It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience).

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

**WATER:**

- No exposure limits set by NOHSC or ACGIH.

**PERSONAL PROTECTION****RESPIRATOR**

- Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

**EYE**

- - Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**HANDS/FEET**

- - Wear chemical protective gloves, eg. PVC.
  - Wear safety footwear or safety gumboots, eg. Rubber.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
- frequency and duration of contact,
  - chemical resistance of glove material,
  - glove thickness and
  - dexterity.

**OTHER**

- - Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

**ENGINEERING CONTROLS**

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**

Clear to hazy green liquid with a very slight odour; miscible with water.

**PHYSICAL PROPERTIES**

Liquid.			
Mixes with water.			
State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Available	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	7.5- 9.0
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	15.6 (ethylene glycol)	Specific Gravity (water=1)	1.02- 1.07
Lower Explosive Limit (%)	3.2 (ethylene glycol)	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available
ethylene glycol			
log Kow (Prager 1995):		- 1.36	
log Kow (Sangster 1997):		- 1.36	

## Section 10 - STABILITY AND REACTIVITY

**CONDITIONS CONTRIBUTING TO INSTABILITY**

- - Presence of incompatible materials.
  - Product is considered stable.
  - Hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.*

## Section 11 - TOXICOLOGICAL INFORMATION

**POTENTIAL HEALTH EFFECTS****ACUTE HEALTH EFFECTS**

continued...

**SWALLOWED**

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733).

If swallowed, the toxic effects of glycols (dihydric alcohols) are similar to those of alcohol, with depression of the central nervous system, nausea, vomiting, and degenerative changes in the liver and kidney.

for ethylene glycol:

Ingestion symptoms include respiratory failure, central nervous depression, cardiovascular collapse, pulmonary oedema, acute kidney failure, and even brain damage. Ingestion of 100 ml has caused death.

Toxicity of ethylene glycol to human (KB) cell cultures has been reported as less than that of ethanol. (NIOSHTIC)

Ethylene glycol produces a three-stage response with the severity of each stage dependent on the amount of ingestion.

**EYE**

■ There is some evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

**SKIN**

■ Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

Most liquid alcohols appear to act as primary skin irritants in humans. Significant percutaneous absorption occurs in rabbits but not apparently in man.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

**INHALED**

■ Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

Aliphatic alcohols with more than 3-carbons cause headache, dizziness, drowsiness, muscle weakness and delirium, central depression, coma, seizures and behavioural changes. Secondary respiratory depression and failure, as well as low blood pressure and irregular heart rhythms, may follow. Nausea and vomiting are seen, and liver and kidney damage is possible as well following massive exposures. Symptoms are more acute the more carbons there are in the alcohol.

**CHRONIC HEALTH EFFECTS**

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence from animal testing that exposure to this material may result in reduced fertility.

There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby.

Exposure to ethylene glycol over a period of several weeks may cause throat irritation, mild headache and low backache. These may worsen with increasing concentration of the substance. They may progress to a burning sensation in the throat, a burning cough, and drowsiness.

Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

**TOXICITY AND IRRITATION**

■ No significant acute toxicological data identified in literature search.

For ethylene glycol:

Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow.

**SKIN**

ethylene glycol	Australia Exposure Standards - Skin	Notes	Sk
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**Section 12 - ECOLOGICAL INFORMATION**

No data

**Ecotoxicity**

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
ethylene glycol	LOW	MED	LOW	HIGH
denatonium benzoate	No Data Available	No Data Available		

continued...

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## Section 13 - DISPOSAL CONSIDERATIONS

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■ - Containers may still present a chemical hazard/ danger when empty.

- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction.

- DO NOT allow wash water from cleaning or process equipment to enter drains.

- It may be necessary to collect all wash water for treatment before disposal.

- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

- Where in doubt contact the responsible authority.

- Recycle wherever possible or consult manufacturer for recycling options.

- Consult State Land Waste Authority for disposal.

- Bury or incinerate residue at an approved site.

- Recycle containers if possible, or dispose of in an authorised landfill.

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## Section 14 - TRANSPORTATION INFORMATION

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### HAZCHEM:

None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

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## Section 15 - REGULATORY INFORMATION

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POISONS SCHEDULE S5

### REGULATIONS

#### Regulations for ingredients

**ethylene glycol (CAS: 107-21-1) is found on the following regulatory lists;**

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix C", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk"

**denatonium benzoate (CAS: 3734-33-6) is found on the following regulatory lists;**

"Australia Inventory of Chemical Substances (AICS)"

**water (CAS: 7732-18-5) is found on the following regulatory lists;**

"Australia Inventory of Chemical Substances (AICS)"

**No data for Austech AC-7 Heavy Duty Diesel Engine Cool. 50% Premix RTU (CW: 4774-35)**

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## Section 16 - OTHER INFORMATION

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### Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
denatonium benzoate	3734- 33- 6	Xn; R22

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references).

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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*This is the end of the MSDS.*