

# MATERIAL SAFETY DATA SHEET



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**PRODUCT NAME:** RL620  
**OTHER NAMES:** NONE  
**RECOMMENDED USE:** Boiler return line treatment.  
**SUPPLIER NAME:** CAMPBELL CLEANTEC (ABN 92 009 657 489)

	<u>AUSTRALIA:</u>	<u>NEW ZEALAND:</u>
<b>ADDRESS:</b>	32 PERIVALE STREET, DARRA, QLD, 4076	LEVEL 3, 52 SWANSON STREET, AUCKLAND, 1010
<b>TELEPHONE:</b> GENERAL ENQUIRIES:	+ 61 7 3710 3200	NZ: (09) 379 8745
CUSTOMER SERVICE:	1800 077 240	NZ: (09) 379 8745
<b>FAX:</b> GENERAL ENQUIRIES:	+ 61 7 3710 3210	NZ: (09) 336 1354
CUSTOMER SERVICE:	+ 61 7 3710 3207	NZ: (09) 336 1354

**EMERGENCY TELEPHONE NUMBER:** AUSTRALIA: **1800 628 724 (ALL HOURS)**  
 NEW ZEALAND: **0800 734 607 (ALL HOURS)**  
 ALL OTHER INTERNATIONAL: **+ 61 7 3710 3184 (ALL HOURS)**

## 2. HAZARDS IDENTIFICATION

**HAZARD:** Classified as hazardous according to the criteria of ASCC.  
**CLASSIFICATION:** Classified as a **dangerous good UN 3267** according to the criteria of ADG Code (see section 14).  
 Not classified as a scheduled poison according to the criteria of SUSDP (see section 15).  
**HAZARD CATEGORY:** Xn – Harmful; C – Corrosive; Xi – Irritant  
**RISK PHRASES:** R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.  
 R34 – Causes burns.  
 R37 – Irritating to respiratory system.  
 R41 – Risk of serious eye damage.  
**SAFETY PHRASES:** S1/2 – Keep locked up and out of the reach of children.  
 S7 – Keep container tightly closed.  
 S16 – Keep away from sources of ignition – No smoking.  
 S23 – Do not breathe vapour.  
 S24/25 – Avoid contact with eyes and skin.  
 S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S28 – After contact with skin, wash immediately with plenty of soap and running water.  
 S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.  
 S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

*The information contained in this MSDS is specific to the product when handled and used neat. This product when diluted may not require the same control measures as the neat product. Check with your technical representative if in doubt.*

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS No.	PROPORTION (% w/w)
<i>The ingredients below are considered either hazardous, dangerous goods or poison scheduled according to the criteria of ASCC, ADG Code and SUSDP (respectively) at the levels used in the product.</i>		
Morpholine	110-91-8	<10%
Cyclohexylamine	108-91-8	10 - <30% <i>Rfd 2.0 x 10<sup>-1</sup></i>
Diethylaminoethanol	100-37-8	10 - <30% <i>1.4 mg/L</i>
<i>The ingredients below are <u>not</u> considered either hazardous, dangerous goods or poison scheduled according to the criteria of ASCC, ADG Code and SUSDP (respectively) at the levels used in the product.</i>		
Water		30 - 60%

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## 4. FIRST AID MEASURES

- INGESTION:** For advice, contact a Poisons Information Centre (Phone Australia 131126, New Zealand 0800 764 766) or a doctor. If swallowed, do NOT induce vomiting. Give a glass of water.
- EYE CONTACT:** If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- SKIN CONTACT:** If skin or hair contact occurs, remove contaminated clothing and wash skin and hair thoroughly with soap and water. Flush continuously with running water until advised to stop by the Poisons Information Centre or a doctor.
- INHALATION:** Remove from source of exposure to fresh air. Seek medical assistance if the effects persist.  
**\*\* SHOW THIS SAFETY DATA SHEET TO A DOCTOR \*\***
- FIRST AID FACILITIES:** Potable water should be available to rinse eyes or skin. Provide eye baths, safety showers and soap.
- NOTES TO PHYSICIAN:** Treat symptomatically.

## 5. FIRE FIGHTING METHODS

- SUITABLE EXTINGUISHING MEDIA:** Water spray, foam, carbon dioxide or dry chemical powder.
- HAZARDS FROM COMBUSTION:** Explosive air-vapour mixture may form. Explosive when mixed with oxidising agents. Avoid all ignition sources. Keep away from heat, naked flames or sparks and oxidising agents. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. On burning will emit toxic fumes such as carbon oxides and nitrogen oxides.
- PRECAUTIONS FOR FIRE FIGHTERS AND SPECIAL PROTECTIVE EQUIPMENT:** Fire fighters should wear self-contained breathing apparatus and chemical splash unit to minimise risk of exposure.
- HAZCHEM CODE:** 2X

## 6. ACCIDENTAL RELEASE MEASURES

- EMERGENCY PROCEDURES:** Shut off leak if safe to do so. Eliminate all sources of ignition (no smoking, flares, sparks or flame). Spillages are slippery. Vapours are heavier than air and may travel along the ground, gathering in depressions, resulting in Oxygen deficiency. Ensure adequate ventilation, work up wind or increase ventilation. Keep spectators away – rope off the area. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and inhalation of mists or vapour.
- METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP:** Contain the spill and prevent run off into confined areas, drains and waterways.  
Absorb with dry earth, sand or other non-combustible material. Use clean non-sparking tools to collect and seal in properly labelled drums for disposal in an area approved by local authority by-laws. Wash area down with excess water to remove residual material. **DO NOT** flush to drain.  
**DO NOT** incinerate: the by-products may be hazardous.

## 7. HANDLING AND STORAGE

- PRECAUTIONS FOR SAFE HANDLING:** Keep containers closed at all times - check regularly for leaks or spills. Transport and store upright. Avoid eye contact and repeated or prolonged skin contact and breathing in mists. Do not eat, drink or smoke in contaminated areas. Always remove contaminated clothing and wash hands before eating, drinking, smoking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.
- CONDITIONS FOR SAFE STORAGE:** Store in the original container, in a cool dry well-ventilated area out of sunlight and away from heat, incompatible materials and foodstuffs. Keep away from oxidising agents, may form explosive mixtures. Keep containers closed when not in use to ensure contamination does not occur- check regularly for leaks. Do not combine part drums of the same product, as this may be a source of contamination. Do not mix with other chemicals.  
Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940. Refer to State Regulations for storage and transport requirements.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>NATIONAL EXPOSURE STANDARDS:</b>	No value assigned for this specific material by the ASCC, however for the hazardous ingredients, as published by the ASCC: T.W.A. for Cyclohexylamine = 41 mg/m <sup>3</sup> T.W.A. for Morpholine = 71 mg/m <sup>3</sup> T.W.A. for Diethylaminoethanol = 48 mg/m <sup>3</sup>
<b>BIOLOGICAL LIMIT VALUES:</b>	No biological limit allocated.
<b>ENGINEERING CONTROLS:</b>	Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. If inhalation risk exists then use with local exhaust ventilation or while wearing a suitable respirator. Vapour 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.
<b>PERSONAL PROTECTIVE EQUIPMENT:</b>	Protective equipment must be worn at all times. Risk assessments should always be conducted to identify the hazards and in turn determine the appropriate personal protective equipment for the hazard.  Protective gloves: elbow-length laminate film or supported PVA impervious gloves. Always check with the glove manufacturer or your personal protective equipment supplier regarding the correct type of glove to use. Consult AS/NZS 2161 for further information.  Eye protection: safety glasses/goggles with side shield protection and/or full-face shield. Consult AS/NZS 1336 and AS/NZS 1337 for further information.  Clothing and footwear: waterproof apron, coveralls, trousers, long sleeved shirt, closed in shoes and/or safety footwear. Consult AS/NZS 2210 and AS/NZS 2919 for further information.  Respiratory Protection: Avoid breathing mist, sprays or vapours. Where ventilation is not adequate, respiratory protection may be required. Any air-supplied respirator or combination organic vapour respirator with a dust and mist pre-filter with an organic vapour cartridge(s) providing protection against the compounds of concern meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>APPEARANCE:</b>	Clear, yellow liquid.
<b>ODOUR:</b>	Amine odour.
<b>PH (NEAT):</b>	12 - 13
<b>SPECIFIC GRAVITY OR DENSITY:</b>	0.96
<b>VAPOUR PRESSURE:</b>	No information available.
<b>PERCENT VOLATILES:</b>	Volatile organic compounds: Approx. 40%.
<b>BOILING POINT / RANGE:</b>	BP: > 95°C
<b>FREEZING / MELTING POINT:</b>	No information available.
<b>SOLUBILITY:</b>	No information available.
<b>FLASH POINT:</b>	>84°C (COC)... C1 Combustible liquid
<b>FLAMMABILITY LIMITS:</b>	No information available.
<b>IGNITION TEMPERATURE:</b>	No information available.
<b>SHELF LIFE:</b>	2 years from manufacturing date (when stored as directed).
<b>OTHER:</b>	EVAPORATION RATE: < 1

## 10. STABILITY AND REACTIVITY

<b>CHEMICAL STABILITY:</b>	Stable under normal conditions of use. The shelf life is 2 years.
<b>CONDITIONS TO AVOID:</b>	Do not combine part drums of the same product, as this may be a source of contamination. Keep material away from sparks, flames and other ignition sources. Keep away from sources of excess heat (boilers, heaters, hot pipes). Keep away from oxidising agents.
<b>INCOMPATIBLE MATERIALS:</b>	Oxidising agents, strong acids and acid-forming substances, copper, aluminium, zinc and galvanised steel.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Carbon oxides, nitrogen oxides, amine vapours, ammonia, soot, smoke and other organic compounds. The packaging material may burn to emit noxious fumes.
<b>HAZARDOUS REACTIONS:</b>	Explosive when mixed with oxidising substances. Strong exothermic reaction with acids. Corrosive to copper, aluminium, zinc and galvanised steel.

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## 11. TOXICOLOGICAL INFORMATION

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

### ACUTE EFFECTS

**INGESTION:** Harmful if swallowed. Swallowing can result in nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

**EYE CONTACT:** Corrosive to eyes. May cause severe and permanent corneal damage.

**SKIN CONTACT:** Harmful in contact with skin. Causes severe burns upon skin contact, resulting in tissue damage and dermatitis. Risk of absorption through skin.

**INHALATION:** Harmful by inhalation. Vapours, mists and sprays are capable of causing irritation and possible harmful corrosive effects to the mucous membranes and respiratory tract, including lesions of the nasal septum, pulmonary oedema, pneumonitis, and emphysema. High concentrations may result in headaches, nausea, vomiting, light-headedness, restlessness, anxiety, and rapid heartbeat. Vapours may be harmful with repeated exposure.

**LONG TERM EFFECTS:** No information available for the product.

**ACUTE TOXICITY /**  
**CHRONIC TOXICITY:** No toxicity data for this specific product, however toxicity data for the hazardous ingredients is listed below.

#### TOXICITY DATA FOR MORPHOLINE:

Oral LD50 (rat) 1450 mg/kg      Dermal LD50 (rabbit) 500 uL/kg

Inhalation LC50 (rat) 8000 ppm/8 hour

#### TOXICITY DATA FOR DIETHYLAMINOETHANOL:

Oral LD50 (rat) 1320 mg/kg      Dermal LD50 (rabbit) 1100 mg/kg

Primary skin irritation/rabbit/OECD test – Corrosive

## 12. ECOLOGICAL INFORMATION

**ECOTOXICITY:** Avoid contaminating waterways. The product is highly alkaline. If large spills occurred a water pH rise could be responsible for an environmental effect on aquatic organisms. If not neutralised this product could potentially be toxic for aquatic organisms because of its alkalinity (pH > 9 can have an effect on fish, with possible fish death). pH > 8.5 could be destroying for algae.

#### ECOTOXICITY DATA FOR DIETHYLAMINOETHANOL:

LC50 *Leuciscus idus* (96 hr) 100-220 mg/L

LC50 *Daphnia magna* (48 hr) 83.6 mg/L

EC50 *Scenedesmus subspicatus* (72 hr) 30 mg/L

EC50 *Pseudomonas putida* 375 mg/L

**PERSISTENCE AND DEGRADABILITY:** No information available.

**MOBILITY:** No information available.

**OTHER:** None.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHODS:** Dispose of material under the requirements of state environmental authority. Do not contaminate stream, rivers or watercourses. Inform local authority if liquid enters drains, sewers, streams, etc. Empty containers should be forwarded to an approved agent for recycling.

**SPECIAL PRECAUTIONS FOR LANDFILL OR INCINERATION:** Dispose of material through a licensed waste contractor. Incinerate under controlled conditions if permitted by local authorities.

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## 14. TRANSPORT INFORMATION

**ROAD AND RAIL TRANSPORT:** Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

**UN NUMBER:** 3267

**UN PROPER SHIPPING NAME:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (CONTAINS CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL AND MORPHOLINE)

**CLASS AND SUBSIDIARY RISK(S):** 8

**PACKAGING GROUP:** II

**HAZCHEM CODE:** 2X

**INITIAL EMERGENCY RESPONSE GUIDE:** Guide 36

**SEGREGATION DANGEROUS GOODS:** Not to be loaded with explosives (class 1), dangerous when wet substances (class 4.3), oxidising agents (class 5.1), organic peroxides (class 5.2), radioactive substances (class 7), corrosives (strong acids of class 8), foodstuffs and foodstuff empties, however exemptions may apply.

**MARINE TRANSPORT:** Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

**UN NUMBER:** 3267

**UN PROPER SHIPPING NAME:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (CONTAINS CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL AND MORPHOLINE)

**CLASS AND SUBSIDIARY RISK(S):** 8

**PACKAGING GROUP:** II

**STOWAGE AND SEGREGATION:** Category B. Clear of living quarters. "Separated from" acids.

**AIR TRANSPORT:** Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) for transport by air.

**UN NUMBER:** 3267

**UN PROPER SHIPPING NAME:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (CONTAINS CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL AND MORPHOLINE)

**CLASS AND SUBSIDIARY RISK(S):** 8

**PACKAGING GROUP:** II

**ERG CODE:** 8L

## 15. REGULATORY INFORMATION

**POISONS SCHEDULE (AUST.):** NONE

**APVMA STATUS:** Not relevant.

**TGA STATUS:** Not relevant.

**AICS STATUS:** All the constituents of this product are listed.

**AQIS STATUS:** IOA is available on request.

**OTHER:** Not relevant.

## 16. OTHER INFORMATION

**GENERAL INFORMATION:** This product is a corrosive liquid. Use good industrial hygiene.

**MSDS ISSUE NUMBER:** 004

**MSDS ISSUE DATE:** 05 MARCH 2009

In any event, the review and, if necessary, the re-issue of a MSDS shall be no longer than 5 years after the last date of issue. Electronic versions of the MSDS's in a PDF format are also available on our Websites at [www.cleantec.com.au/products.htm](http://www.cleantec.com.au/products.htm) and [www.cleantec-nz.co.nz/products.htm](http://www.cleantec-nz.co.nz/products.htm)

**REASON(S) FOR ISSUE:** 004: Reclassified as non-flammable. Addition of New Zealand contact details. Addition of New Zealand website address.

***THIS ISSUE NUMBER REPLACES ALL PREVIOUS ISSUES.***

**LITERARY REFERENCE:**

**SOURCES FOR DATA:**

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LEGEND:	
AICS	Australian Inventory of Chemical Substances
APVMA	Australian Pesticides and Veterinary Medicines Authority
AQIS	Australian Quarantine and Inspection Service
AS	Australian Standard (as issued by Standards Australia)
ASCC	Australian Safety and Compensation Council (formerly NOHSC)
ERP Code	Emergency Response Drill Code as found in the ICAO (International Civil Aviation Organisation) Doc 9481
MSDS	Material Safety Data Sheet
NOHSC	National Occupational Health and Safety Commission
STEL	Short Term Exposure Limit - A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
TGA	Therapeutic Goods Administration
TLV	Threshold Limit Value - TLV is a proprietary name registered by the American Conference of Governmental Industrial Hygienists (ACGIH) and refers to airborne concentrations of substances or levels of physical agents to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect.
TWA	Time Weighted Average - The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

*This MSDS has been prepared from current technical data and summarises at the date of issue our best knowledge of the health and safety information of the product, and in particular how to safely handle and use the product in the workplace.*

*If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.*

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**End of MSDS**