



SAFETY DATA SHEET

UCARCIDE 250 ANTIMICROBIAL

REVISION 2, DATE 09 NOV 18

1. IDENTIFICATION

Product Name	Ucarcide 250 Antimicrobial
Other Names	No Data Available
Uses	For industrial use only.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Ucarcide 250 Antimicrobial
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

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Safe Work Australia

Approved Criteria for Classifying Hazardous Substances (NOHSC:1008(2004))

Hazard Classification	Hazardous according to the criteria of Safe Work Australia [NOHSC:1008(2004)]	
Hazard Categories	N	Dangerous For The Environment
	T	Toxic

Safe Work Australia

National Code of Practice for the Labelling of Workplace Substances (NOHSC:2012(1994))

Risk Phrases	R21	Harmful in contact with skin.
	R23/25	Toxic by inhalation and if swallowed.
	R34	Causes burns.
	R42/43	May cause sensitisation by inhalation and skin contact.
	R50	Very toxic to aquatic organisms.
Safety Phrases	S23	Do not breathe vapour.
	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 water.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S38	In case of insufficient ventilation, wear suitable respiratory equipment.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S60	This material and its container must be disposed of as hazardous waste.
	S61	Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)	
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
		6.5B	Substances that are contact sensitisers
		8.2C	Substances that are corrosive to dermal tissue UN PGIII
		8.3A	Substances that are corrosive to ocular tissue

3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Glutaraldehyde	No Data Available	111-30-8	50.0 %
Water	No Data Available	7732-18-5	<50.0 %
Methanol	No Data Available	67-56-1	<0.5 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Immediately rinse mouth with water. Give water to drink provided person is conscious. Do NOT induce vomiting. Seek immediate medical attention.
Eye	Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek immediate medical attention, preferably from an ophthalmologist.
Skin	Remove contaminated clothing. Wash affected area with soap and plenty of water for 15-20 minutes. Seek immediate medical attention. Wash clothing before reuse. Shoes and other leather items which can not be decontaminated should be disposed of properly.
Inhaled	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek immediate medical attention.
Advice to Doctor	First aid responders should pay attention to self-protection and use the recommended protective clothing. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. Maintain adequate ventilation and oxygenation of the patient. May cause asthma like symptoms (reactive airways). Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Glutaraldehyde may transiently worsen reversible airways obstruction including asthma or reactive airways disease. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Probable mucosal damage may contraindicate the use of gastric lavage. Suggest endotracheal/esophageal control if lavage is done. If burn is present, treat as any thermal burn, after decontamination. In sensitised individuals, reexposure to small amounts of vapour, mist or liquid may cause a severe allergic skin reaction. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Medical Conditions Aggravated by Exposure	Excessive exposure may aggravate pre-existing asthma and other respiratory disorders (eg. emphysema, bronchitis, reactive airways dysfunction syndrome). Chronic Toxicity and Carcinogenicity: In a NTP chronic 2-year inhalation study on glutaraldehyde, no carcinogenicity was seen in rats or in mice. An increase in large granular lymphocytes in Fischer rats dosed with glutaraldehyde for two years was random or a secondary carcinogenic effect due to a modifying influence on the occurrence of this common neoplasm in this rat strain. Developmental Toxicity: Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. Reproductive Toxicity: In animal studies, did not interfere with reproduction. Genetic Toxicology: In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were predominantly negative.
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5. FIRE FIGHTING MEASURES

Flammability Conditions	Product is a non-flammable solid.
Extinguishing Media	In case of fire, appropriate extinguishing media include water fog, carbon dioxide, foam and dry chemical.
Hazardous Products of Combustion	Non-combustible solid. Material will not burn until the water has evaporated. Residue will burn. Avoid generating dust. Incompatible with strong oxidising agents, strong acids, strong bases, amines, ammonia, and some metals such as aluminium, carbon steel, copper, iron, mild steel. Also incompatible with ignition sources. When involved in a fire, this product may generate toxic fumes of carbon monoxide and carbon dioxide. Smoke may contain unidentified toxic and/or irritating compounds.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting

clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Personnel involved in the clean up should wear full protective clothing. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. If safe to do so, remove containers from path of the fire. Do NOT approach containers suspected to be hot. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your Local Waste Management. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled chemical-waste container and dispose of promptly as hazardous waste. Very low concentrations (5ppm or less of glutaraldehyde) can be degraded in a biological waste water treatment system. Thus, small spills can be flushed with large quantities of water. Large quantities of 'slugs' can be harmful to the treatment system. Thus, large spills, should be collected for disposal. It may also be possible to decontaminate spilled material by careful application of sodium hydroxide or sodium bisulfite. Depending on conditions, considerable heat and fumes can be liberated by the decontamination reaction.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust/fumes. Do NOT spray or aerosolise the undiluted form of the product. Full personal protective equipment is required for dilutions or mixtures of the product used in a spray application. Wash thoroughly with soap and water after handling.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials including strong oxidising agents, strong acids, strong bases, amines, ammonia, sources of ignition and some metals such as aluminium, carbon steel, copper, iron and mild steel. Shelf life: Use within 12 months. This product has a UN classification 3077 and a Dangerous Goods Class 9 (Miscellaneous) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001. Store in original packaging as approved by manufacturer. Do NOT store in aluminium, carbon steel, copper, mild steel or iron.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	COMPONENT	LIST	TYPE	VALUE	Glutaraldehyde	ACGIH	Ceiling	0.5ppm	SEN AU OEL
	PEAK	0.41mg/m3	0.1ppm	SEN	Methanol	ACGIH	TWA	200ppm	SKIN, BEI ACGIH
	250ppm	SKIN, BEI EU	IOELV	TWA	260mg/m3	200ppm	SKIN AU OEL	TWA	262mg/m3
	OEL	STEL	328mg/m3	250ppm	SKIN A	"SEN"	notation refers to the potential to produce sensitisation, as confirmed by human or animal data.		
									A "SKIN notation refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapours or by direct skin contact.

A "BEI" notation refers to a guidance value for assessing biological monitoring results as an indicator of the uptake of a substance from all exposure routes.

Exposure Limits	No Data Available
Biological Limits	No information available on biological limits for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	RESPIRATOR: Wear an approved full-face respirator with organic vapour cartridge and a particulate pre-filter when handling this product (AS1715/1716). EYES: Safety glasses with side shields (AS1336/1337). HANDS: Wear impervious chemical resistant gloves (AS2161). CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Fruity
Colour	Clear
pH	3.1 - 4.5
Vapour Pressure	0.3mmHg (20°C) torr (@ 20 °C)
Relative Vapour Density	1.1
Boiling Point	100.7 °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	100% 25°C
Specific Gravity	1.129
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	1.0
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	Active ingredient decomposes at elevated temperature °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is a liquid

Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Product is stable under directed conditions of use, storage and temperature. Active ingredient decomposes at elevated temperatures.
Conditions to Avoid	Avoid excessive heat, generating dust, direct sunlight, static discharges, moisture and high temperatures.
Materials to Avoid	Incompatible with strong oxidising agents, strong acids, strong bases, amines, ammonia, sources of ignition and some metals such as aluminium, carbon steel, copper, iron and mild steel.
Hazardous Decomposition Products	When involved in a fire, this product may generate toxic fumes of carbon monoxide and carbon dioxide. Smoke may contain unidentified toxic and/or irritating compounds.
Hazardous Polymerisation	Hazardous polymerisation will not occur

11. TOXICOLOGICAL INFORMATION

General Information	Oral LD50 Rat : 1468mg/Kg Dermal LD50 Rabbit : 897-1432mg/Kg Inhalation LC50/4hr : >27 ppm
EyeIrritant	May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapours may cause eye irritation experienced as mild discomfort and redness.
Ingestion	Toxic if swallowed. Causes burns. May be fatal if swallowed. Swallowing may result in irritation or burns of the mouth, throat and gastrointestinal tract. Swallowing may result in gastrointestinal irritation or ulceration. Excessive exposure may cause headache, dizziness, anesthetic effects, drowsiness, unconsciousness and other central nervous system effects. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.
Inhalation	Vapours may cause severe irritation of the upper respiratory tract (nose and throat). Vapour from heated material may cause serious adverse effects, even death. Case reports and medical surveys link asthma and respiratory irritation to glutaraldehyde exposure, primarily in medical personnel. Asthma-like symptoms may occur in people prone to respiratory disorders or other allergies. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.
SkinIrritant	Harmful in contact with skin. Causes burns. Brief contact may cause skin irritation with local redness. Prolonged contact may cause severe skin burns. Symptoms may include pain, severe local redness, swelling and tissue damage. May stain skin. May cause itching. Skin contact may cause an allergic reaction in a small proportion of individuals. Has caused allergic skin reactions when tested in guinea pigs and mice. Inhalation of vapours may cause skin sensitisation. In sensitised individuals, re-exposure to very small amounts of vapour, mist or liquids may cause a severe allergic reaction. Repeated skin contact may result in absorption of amounts which could cause death. May cause nausea and vomiting.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic organisms. Rainbow Trout LC50 : 17000mg/L Daphnia Magna LC50 : >10000mg/L Activated Sludge IC50 Respiration Inhibition/3hr : >1000mg/L
Persistence/Degradability	Data For Component: Glutaraldehyde: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability: OECD BIODEGRADATION TESTS: BIODEGRADATION EXPOSURE TIME METHOD 83% 28 Days OECD 301A Test 73% 28 Days OECD 306 Test
Mobility	Potential for mobility in soil is high (Koc between 50 and 150). Given its very low Henry's Constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Henry's Law Constant (H): 3.3E-08 atm*m3/mole; 25°C Measured Partition coefficient, n-octanol/water (log Pow): -0.333 Measured. Partition coefficient, soil organic carbon/water (Koc): 120-500 Estimated.
Environmental Fate	Do NOT allow product to enter waterways, drains or sewers. Very toxic to aquatic organisms.
Bioaccumulation Potential	Bioconcentration potential is low (BCF less than 100 or log Pow less than 3).
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CONTAINS GLUTARALDEHYDE)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CONTAINS GLUTARALDEHYDE)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	3265

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Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	153 Substances - Toxic and/or Corrosive (Combustible)
UN Number	3265
Hazchem	No Data Available
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3265
Hazchem	No Data Available
Pack Group	II
Special Provision	No Data Available
EMS	FA,SB
Marine Pollutant	No

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002491
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National/Regional Inventories

Australia (AIIIC)	Listed
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Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Not Determined
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	MIBIOC4000
Revision	2
Revision Date	09 Nov 2018
Key/Legend	<p>< Less Than > Greater Than</p> <p>AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.</p>

LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or **L** Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight