

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Glycine</b>
<b>Other Names</b>	Aminoacetic Acid; Glycin; Glycocol
<b>Uses</b>	Unspecified
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>
<b>Chemical Name</b>	2-Aminoacetic acid
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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)** Not scheduled

### Globally Harmonised System

**Hazard Classification** NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Signal Word** None

### National Transport Commission (Australia)

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

**Dangerous Goods Classification** NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

### Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

**HSNO Classifications** Health Hazards **6.1E** Substances that are acutely toxic –May be harmful, Aspiration hazard  
**6.1E** Substances that are acutely toxic –May be harmful, Aspiration hazard

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Glycine	No Data Available	56-40-6	>98.5 %

## 4. FIRST AID MEASURES

### Description of necessary measures according to routes of exposure

**Swallowed** Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

**Eye** Rinse immediately with plenty of water holding eyelids open. Obtain medical attention if pain, blinking or redness persist.

**Skin** Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

**Inhaled** Allow victim to breathe fresh air. Allow the victim to rest. Avoid becoming a casualty. Seek medical advice for any breathing difficulty.

**Advice to Doctor** Treat symptomatically based on judgment of doctor and individual reactions of patient.

**Medical Conditions Aggravated by Exposure** Not expected to present a significant hazard under anticipated conditions of normal use.

## 5. FIRE FIGHTING MEASURES

**Flammability Conditions** Product is a non-flammable solid.

**Extinguishing Media** Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray, Sand.  
Unsuitable extinguishing media : Do not use a heavy water stream.

**Fire and Explosion Hazard** Most organic solids are liable to dust explosion hazard. No data available on direct explosion hazard.

**Hazardous Products of Combustion** Non-combustible solid. Not considered to be a fire hazard. Not considered to be an explosion hazard. No incompatibility data found. Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Special Fire Fighting Instructions** Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

<b>Personal Protective Equipment</b>	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. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
<b>Flash Point</b>	>176.67 °C
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Avoid accidents, clean up immediately. Slippery when spilt. Personnel involved in the clean up should wear full protective clothing as listed in section 8. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. 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.
<b>Clean Up Procedures</b>	Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly.
<b>Environmental Precautionary Measures</b>	Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.
<b>Evacuation Criteria</b>	Evacuate unnecessary personnel.

## 7. HANDLING AND STORAGE

<b>Handling</b>	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.
<b>Storage</b>	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. Minimize generation of dust. Store away from Strong oxidizers. Strong acids. Protect against physical damage. Store away from incompatible materials as listed in section 10. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
<b>Container</b>	Store in original packaging as approved by manufacturer.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	OSHA Permissible Exposure Limit (PEL): 15 mg/m <sup>3</sup> total dust, 5 mg/m <sup>3</sup> respirable fraction for nuisance dusts. ACGIH Threshold Limit Value (TLV): 10 mg/m <sup>3</sup> total dust containing no asbestos and < 1% crystalline silica for Particulates Not Otherwise Classified (PNOC).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available on biological limit values for this product.
<b>Engineering Measures</b>	In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered. Ensure adequate ventilation
<b>Personal Protection Equipment</b>	RESPIRATOR: If the exposure limit is exceeded, a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece dust/ mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres (AS1715/1716). EYES: Safety glasses with side shields (AS1336/1337).

HANDS: Wear protective gloves (AS2161).

CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).

#### Work Hygienic Practices

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystalline powder
<b>Odour</b>	None
<b>Colour</b>	White
<b>pH</b>	No Data Available
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	182
<b>Freezing Point</b>	182 °C
<b>Solubility</b>	25g/100mL 25°C
<b>Specific Gravity</b>	1.1607 g/cm <sup>3</sup>
<b>Flash Point</b>	>176.67 °C
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	233 °C
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	Log Pow -3.21
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	0%
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	Soluble in water. Insoluble in organic solvents. Water: 25 g/100ml
<b>Potential for Dust Explosion</b>	No Data Available
<b>Fast or Intensely Burning Characteristics</b>	No Data Available
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No Data Available
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No Data Available
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	No Data Available
<b>Reactions That Release Gases or Vapours</b>	No Data Available

**Release of Invisible Flammable Vapours and Gases** No Data Available

## 10. STABILITY AND REACTIVITY

**Chemical Stability** Product is stable under normal conditions of use, storage and temperature.

**Conditions to Avoid** Direct sunlight. Extremely high or low temperatures.

**Materials to Avoid** Strong oxidizers. Strong bases.

**Hazardous Decomposition Products** Nitrogen oxides. Carbon monoxide. Carbon dioxide may form when heated to decomposition.

**Hazardous Polymerisation** Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

**General Information** Oral LD50 Rat: 7930mg/Kg. Investigated as a mutagen.  
ATE US (oral) : 7930.000 mg/kg body weight

**Eyelrritant** May cause redness.

**Ingestion** Large oral doses may cause nausea.

**Inhalation** High concentrations of dust may cause coughing.

**SkinIrritant** No adverse effects expected.

**Carcinogen Category** No Data Available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** No ecological information available for this product.

**Persistence/Degradability** No information available on persistence/degradability for this product.

**Mobility** No information available on mobility for this product.

**Environmental Fate** Avoid release to the environment.

**Bioaccumulation Potential** Log Pow -3.21

**Environmental Impact** No Data Available

## 13. DISPOSAL CONSIDERATIONS

**General Information** Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. 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

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

**Land Transport (Malaysia)**

ADR

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available

<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No

#### Air Transport

IATA DGR

<b>Proper Shipping Name</b>	GLYCINE
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available

#### National Transport Commission (Australia)

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

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
---------------------------------------	---

### 15. REGULATORY INFORMATION

<b>General Information</b>	No Data Available
<b>Poisons Schedule (Aust)</b>	Not scheduled

#### Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	HSR003783
----------------------	-----------

#### National/Regional Inventories

<b>Australia (AICS)</b>	Listed
<b>Canada (DSL)</b>	Listed
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	Not Determined
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (EHS Register)</b>	Not Determined

<b>New Zealand (NZIoC)</b>	Not Determined
<b>Philippines (PICCS)</b>	Not Determined
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Listed

## 16. OTHER INFORMATION

<b>Related Product Codes</b>	GLYCIN0100, GLYCIN0200, GLYCIN1000, GLYCIN1001, GLYCIN1002, GLYCIN1003, GLYCIN1004, GLYCIN1005, GLYCIN1006, GLYCIN1007, GLYCIN1008, GLYCIN1009, GLYCIN1010, GLYCIN1011, GLYCIN1012, GLYCIN1013, GLYCIN1014, GLYCIN1015, GLYCIN1016, GLYCIN1017, GLYCIN1018, GLYCIN1019, GLYCIN1020, GLYCIN1021, GLYCIN1022, GLYCIN1100, GLYCIN1101, GLYCIN1500, GLYCIN1800, GLYCIN1801, GLYCIN2000, GLYCIN2001, GLYCIN2300, GLYCIN2350, GLYCIN2355, GLYCIN2356, GLYCIN2500, GLYCIN2600, GLYCIN2700, GLYCIN2800, GLYCIN3000, GLYCIN3001, GLYCIN3002, GLYCIN3003, GLYCIN3004, GLYCIN3500, GLYCIN4000, GLYCIN4001, GLYCIN4002, GLYCIN4003, GLYCIN4500, GLYCIN4501, GLYCIN5000, GLYCIN5500, GLYCIN6000, GLYCIN6001, GLYCIN6300, GLYCIN6400, GLYCIN6500, GLYCIN6501, GLYCIN6600, GLYCIN6700, GLYCIN6701, GLYCIN6800, GLYCIN6801, GLYCIN6900, GLYCIN7000, GLYCIN7001, GLYCIN7200, GLYCIN7201, GLYCIN7400, GLYCIN7500, GLYCIN8000, GLYCIN8001, GLYCIN8002, GLYCIN8003, GLYCIN8004, GLYCIN8005, GLYCIN8010, GLYCIN8100, GLYCIN8200, GLYCIN8400, GLYCIN8500, GLYCIN8800, GLYCIN8801, GLYCIN9000, GLYCIN9100, GLYCIN9200, GLYCIN9300, GLYCIN9500, GLYCIN9600, GLYCIN9700, GLYCIN9750, GLYCIN9800
<b>Revision</b>	2
<b>Revision Date</b>	17 Feb 2015
<b>Reason for Issue</b>	Update SDS
<b>Key/Legend</b>	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC50</b> 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.  <b>LD50</b> 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.  <b>ltr</b> or <b>L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre  <b>mbar</b> Millibar  <b>mg</b> Milligram  <b>mg/24H</b> Milligrams per 24 Hours  <b>mg/kg</b> Milligrams per Kilogram  <b>mg/m<sup>3</sup></b> Milligrams per Cubic Metre  <b>Misc</b> or <b>Miscible</b> Liquids form one homogeneous liquid phase regardless of the amount of either component present.</p>



**mm** Millimetre  
**mmH<sub>2</sub>O** Millimetres of Water  
**mPa.s** Millipascals per Second  
**N/A** Not Applicable  
**NIOSH** National Institute for Occupational Safety and Health  
**NIHSC** 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