

1. IDENTIFICATION

Product Name	Puranol PN 560
Other Names	Pentaerythritol, propoxylated
Uses	Industrial and professional use; Production of rigid polyurethane foams in continuous lamination and spraying process; Production of wood imitation foam; Used for refrigeration, transportation and construction.
Chemical Family	No Data Available
Chemical Formula	$(C_3H_6O)_n(C_3H_6O)_n(C_3H_6O)_n(C_3H_6O)_n(C_5H_{12}O_4)$
Chemical Name	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1)
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)

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)
--------------------------------	---

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Pentaerythritol, propoxylated	(C3H6O)n(C3H6O)n (C3H6O)n (C3H6O)nC5H12O4	9051-49-4	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth with water, then drink plenty of water. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention.
Advice to Doctor	Treat according to symptoms (decontamination, vital functions), no known specific antidote.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use a heavy water stream.
Fire and Explosion Hazard	Hazardous vapours may be released.
Hazardous Products of Combustion	Irritating gases/fumes, including Carbon oxides (CO, CO2), Nitrogen oxides, may be given off during burning or thermal decomposition.

Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
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	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - May be dangerously slippery if spilled! Clean up any spills as soon as possible. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Avoid release to the environment.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Wear personal protective equipment (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours/aerosols and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Protect against frost. Keep away from heat and sources of ignition - No smoking. Segregate from foodstuffs and incompatible materials (see SECTION 10). *Storage temperature: < 60 °C
Container	Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	No Data Available
Biological Limits	No information available.
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. *Assure that emissions are compliant with all applicable air pollution control regulations.
Personal Protection Equipment	- Respiratory protection: None under normal conditions. If ventilation of the workplace is not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant occupational exposure limits, suitable respiratory protective equipment should be worn. Recommended: On heating, self-contained breathing apparatus (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Safety glasses. Use splash

goggles when eye contact due to splashing is possible.

- Hand protection: Handle with gloves. Recommended: Suitable chemical resistant safety gloves, e.g. nitrile rubber, chloroprene rubber, butyl rubber.

- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Protective clothing. Skin protection appropriate to the conditions of use should be provided.

Special Hazards Precautions

Do not discharge waste into the drain.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Wash contaminated clothing before reuse. Separate working clothes from town clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Slight
Colour	Colourless
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	>250 °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Practically immiscible with water (<1%)
Specific Gravity	1.024
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	1.024 g/cm ³
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	1,800 - 2,800 cP (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Hygroscopic.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.

Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Irritating gases/fumes, including Carbon oxides (CO, CO ₂), Nitrogen oxides, may be given off during burning or thermal decomposition.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No hazardous reactions if stored and handled as prescribed/indicated.
Chemical Stability	Stable under normal conditions of use.
Conditions to Avoid	Protect from heat and direct sunlight. Protect against frost. Avoid static electricity discharges.
Materials to Avoid	Incompatible/reactive with Isocyanates, oxidizing agents.
Hazardous Decomposition Products	Irritating gases/fumes, including Carbon oxides (CO, CO ₂), Nitrogen oxides, may be given off during burning or thermal decomposition.
Hazardous Polymerisation	None.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none">- Ingestion: Not expected to cause any adverse acute health effects. Virtually non-toxic after a single ingestion.- Eye contact: Not expected to cause any adverse acute health effects.- Skin contact: Not expected to cause any adverse acute health effects. Virtually non-toxic after a single skin contact.- Inhalation: Not expected to cause any adverse acute health effects. <p>Chronic effects: Not expected to cause any adverse chronic health effects. No carcinogenic substances as defined by IARC, NTP and/or OSHA.</p> <p>*No significant symptoms are expected due to the non-classification of the product. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.</p>
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	<p>There is a high probability that the product is not acutely harmful to aquatic organisms.</p> <p>*The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.</p>
Persistence/Degradability	Moderately biodegradable.
Mobility	Adsorption to solid soil phase is not expected.
Environmental Fate	Do not discharge into drains or the environment.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Collect all waste in suitable and labelled containers and dispose according to local and/or national legislation.

Special Precautions for Land Fill

Empty containers should be thoroughly rinsed with large quantities of clean water. Uncontaminated packaging can be re-used. Packs that cannot be cleaned should be disposed of in the same manner as the contents. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

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

ADG Code

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Puranol PN 560
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

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)
--------------------------------	---

15. REGULATORY INFORMATION

General Information	No Data Available
---------------------	-------------------

Poisons Schedule (Aust)

Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

Not Assessed

National/Regional Inventories

Australia (AIIC)

Listed

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)

Listed

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

POLYHE1000, POLYHE2560, POLYHE2562, POLYHE5600

Revision

2

Revision Date

20 Apr 2020

Reason for Issue

Updated SDS

Key/Legend

< Less Than

> Greater Than

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 Fahrenheit**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 insoluble 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.**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