

1. IDENTIFICATION

Product Name	ELVANOL 71-30 (Polyvinyl Alcohol)
Other Names	Ethenol, homopolymer; Fully hydrolyzed PVOH; Poly(vinyl alcohol); Polyvinyl Alcohol Resin, Fully Hydrolyzed; PVOH/PVA/PVAL; Super hydrolyzed PVOH
Uses	For industrial use only. Dissolution into water for use as a synthetic binder, coating, or viscosity modifier. Raw material for textile sizing agents, paper processing agents, adhesives, barrier coatings, soluble films, and synthesis of polyvinyl butyral resins.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Polyvinyl alcohol, fully hydrolyzed
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	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, 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	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
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

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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
Polyvinyl alcohol, fully hydrolyzed	(C ₂ H ₄ O) _x	9002-89-5	>90 %
Process Aids	Unspecified	Unspecified	<5 %
Other components below reportable levels	Unspecified	Unspecified	<3.5 %
Methanol	CH ₄ O	67-56-1	<1 %
Methyl acetate	C ₃ H ₆ O ₂	79-20-9	<0.2 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth with water. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Do not rub 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 it 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 symptomatically. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

5. FIRE FIGHTING MEASURES

General Measures Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area

if you can do so without risk. Cool containers with water spray until well after fire is out.

Flammability Conditions	Combustible solid; may burn but does not ignite readily.
Extinguishing Media	Water fog, Alcohol resistant foam, Dry chemical powder, Carbon dioxide (CO ₂). Apply extinguishing media carefully to avoid creating airborne dust. Do not use water jet as an extinguisher, as this will spread the fire. *Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
Fire and Explosion Hazard	Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. *May form combustible dust concentrations in air. The material may form dust and can accumulate electrostatic charges, which may cause an electrical spark (ignition source).
Hazardous Products of Combustion	During fire, gases hazardous to health may be formed. In case of fire and/or explosion do not breathe fumes!
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only 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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. *Take precautionary measures against static discharge. Use only non-sparking tools.
Clean Up Procedures	Sweep up or vacuum up spillage and collect in suitable container for disposal (see SECTION 13). Never return spills to original containers for re-use. *Avoid dispersal of dust in the air (i.e. clearing dusty surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter.
Containment	Stop the flow of material, if this is without risk. Wet down large spills with water and dike for later disposal. *Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Decontamination	Following product recovery, flush area with water.
Environmental Precautionary Measures	Avoid discharge into drains, water courses or onto the ground. Local authorities should be advised if significant spillages cannot be contained.
Evacuation Criteria	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak.
Personal Precautionary Measures	Wear appropriate protective equipment and clothing during clean-up (see SECTION 8). *Use an approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

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. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Wear appropriate personal protective equipment (see SECTION 8). WARNING: May form combustible dust concentrations in air! Keep away from heat/sparks/open flames/hot surfaces - No smoking. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers tightly closed. Keep away from

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heat/sparks/open flames/hot surfaces - No smoking. Keep away from incompatible materials (see SECTION 10).

Container

Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards:
- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m³ (measured as inhalable dust).
- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m³; TWA = 3 mg/m³ (respirable dust).
COMPONENT: Methanol (CAS No. 67-56-1):
- Safe Work Australia Exposure Standard: TWA = 200 ppm (262 mg/m³); STEL = 250 ppm (328 mg/m³); Absorption through the skin may be a significant source of exposure (Sk).
COMPONENT: Methyl acetate (CAS No. 79-20-9):
- Safe Work Australia Exposure Standard: TWA = 200 ppm (606 mg/m³); STEL = 250 ppm (757 mg/m³).

Exposure Limits

No Data Available

Biological Limits

No information available.

Engineering Measures

Explosion-proof general and local exhaust ventilation. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal Protection Equipment

- Respiratory protection: Use an approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Recommended: Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter.
- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Wear safety glasses with side shields (or goggles).
- Hand protection: Handle with gloves. Recommended: Wear appropriate chemical resistant gloves.
- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wear appropriate thermal protective clothing, when necessary.

Special Hazards Precautions

Dusts may irritate the respiratory tract, skin and eyes.
*PVOH is considered a nuisance dust, avoid with engineering controls or PPE.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Always wash hands thoroughly after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Solid

Appearance

Powder/Granular

Odour

Odourless

Colour

White

pH

No Data Available

Vapour Pressure

No Data Available

Relative Vapour Density

No Data Available

Boiling Point

No Data Available

Melting Point

200 °C

Freezing Point

No Data Available

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Solubility	Soluble in water
Specific Gravity	No Data Available
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	200 °C
Density	1.26 - 1.31 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	No Data Available
Volatile Percent	< 5 %
VOC Volume	No Data Available
Additional Characteristics	The material may form dust and can accumulate electrostatic charges, which may cause an electrical spark (ignition source).
Potential for Dust Explosion	May form combustible dust concentrations in air. While this product may not be a combustible dust as sold, further processing or handling may form combustible dust concentration in air.
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	Combustible solid; may burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic gases, including Alcohols, Carbon oxides, Aldehydes, Organic acids.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No dangerous reaction known under conditions of normal use.
Chemical Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat/sparks/open flames/hot surfaces. Avoid temperatures exceeding the decomposition temperature.
Materials to Avoid	Incompatible/reactive with strong acids.
Hazardous Decomposition Products	Fire/decomposition may produce irritating and/or toxic gases, including Alcohols, Carbon oxides, Aldehydes, Organic acids.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION**General Information**

Information on likely routes of exposure:

- Ingestion: Expected to be a low ingestion hazard.
- Eye contact: Direct contact may cause mechanical irritation of the eyes.
- Skin contact: Dust or powder may irritate the skin.
- Inhalation: Dust may irritate respiratory system. Prolonged inhalation may be harmful.

Information on toxicological effects:

- Acute toxicity: Not known.
- Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.
- Eye damage/irritation: Direct contact with eyes may cause temporary irritation.
- Respiratory/skin sensitisation: Not a respiratory sensitizer. This product is not expected to cause skin sensitization.
- Germ cell mutagenicity: Not classified.
- Carcinogenicity: Not classified. Polyvinyl alcohol, fully hydrolyzed (CAS No. 9002-89-5) is Classified by the IARC Monographs as "Not classifiable as to its carcinogenicity to humans" (Group 3).
- Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.
- STOT (single exposure): Not classified.
- STOT (repeated exposure): Not classified.
- Aspiration toxicity: Not an aspiration hazard.

Acute**Ingestion**

Acute toxicity (Oral):

COMPONENT: Methanol (CAS No. 67-56-1):

- LD50, Rat: 1,187 - 2,769 mg/kg

COMPONENT: Methyl acetate (CAS No. 79-20-9):

- LD50, Rat: 3,705 mg/kg

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability

Expected to be inherently biodegradable (84 %, 28 d) [OECD test procedure 302B].

Mobility

No information available.

Environmental Fate

Avoid discharge into drains, water courses or onto the ground.

Bioaccumulation Potential

No information available.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Dispose of contents/container in accordance with local/regional/national/international regulations.

Special Precautions for Land Fill

This material and its container must be disposed of in a safe manner. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	ELVANOL 71-30 (Polyvinyl Alcohol)
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	ELVANOL 71-30 (Polyvinyl Alcohol)
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	ELVANOL 71-30 (Polyvinyl Alcohol)
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	ELVANOL 71-30 (Polyvinyl Alcohol)
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	ELVANOL 71-30 (Polyvinyl Alcohol)
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	ELVANOL 71-30 (Polyvinyl Alcohol)
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)
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15. REGULATORY INFORMATION

General Information	No Data Available
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Poisons Schedule (Aust)	Not Scheduled
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Assessed
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National/Regional Inventories

Australia (AIC)	Listed
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Canada (DSL)	Listed
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Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
USA (TSCA)	Listed
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	POVIAL1100
Revision	2
Revision Date	02 Jun 2020
Reason for Issue	New SDS
Key/Legend	<p>< 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 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. 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</p>

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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