



1. IDENTIFICATION

Product Name	Polyvinyl Alcohol (Fully Hydrolysed PVA)
Other Names	28-98DB; Fully hydrolysed PVOH; Polyvinylacetate, hydrolysed
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, binders, barrier coatings, soluble films and synthesis of polyvinyl butyral resins.
Chemical Family	No Data Available
Chemical Formula	$[-C_2H_4O-]_n$
Chemical Name	Contains: Polyvinyl alcohol; Methanol; Methyl acetate
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)

Schedule 5

Globally Harmonised System

Hazard Classification

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Specific Target Organ Toxicity (Single Exposure) - Category 1

Pictograms



Signal Word

Danger

Hazard Statements

H370

Causes damage to organs.

AUH066

Repeated exposure may cause skin dryness or cracking

Precautionary Statements

Prevention

P260

Do not breathe dusts or mists.

P264

Wash hands thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

Response

P308 + P311

IF exposed or concerned: Call a POISON CENTER or a doctor for emergency medical advice.

Storage

P405

Store locked up.

Disposal

P501

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

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 hydrolysed)	(C ₂ H ₄ O) _x	9002-89-5	>90 %
Methanol	CH ₄ O	67-56-1	<=3 %
Methyl acetate	C ₃ H ₆ O ₂	79-20-9	<=2 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed

IF SWALLOWED: Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. For advice, contact a Poisons Information Centre or a doctor (at once).

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. For advice, contact a Poisons Information Centre or a doctor (at once).
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. For advice, contact a Poisons Information Centre or a doctor (at once).
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. For advice, contact a Poisons Information Centre or a doctor (at once).
Advice to Doctor	If exposed or concerned, call a Poison Centre or a doctor for emergency medical advice. 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 it without risk. Cool containers with water spray until well after fire is out.
Flammability Conditions	The product is not flammable; may burn but does not ignite easily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction. Use fire-extinguishing media appropriate for surrounding materials. 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. The product can accumulate electrostatic charges, which may cause an electrical spark (ignition source).
Hazardous Products of Combustion	Fire may produce irritating and/or toxic gases, including Carbon dioxide and Carbon monoxide.
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	>93 °C
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	440 °C
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). Take precautionary measures against static discharge. Do not touch or walk through spilled material. Avoid generating dust. Do not breathe dust/fume and avoid contact with eyes, skin and clothing.
Clean Up Procedures	Sweep up or vacuum up spillage and collect in suitable container for disposal (see SECTION 13). *Collect dust using a vacuum cleaner equipped with HEPA filter. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e. clearing dust surfaces with compressed air). Never return spills to original containers for re-use.
Containment	Stop leak if you can do it without risk. Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas. *Large Spills: Wet down with water and dike for later disposal.
Decontamination	Following product recovery, flush area with water.
Environmental Precautionary Measures	Avoid discharge into drains, watercourses or onto the ground. Local authorities should be advised if significant spillages cannot be contained.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised/unnecessary personnel away. Stay upwind.

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. Do not breathe dust/fume and avoid contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). 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. Keep away from heat/sparks/open flames/hot surfaces - No smoking.

Storage Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.

Container Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General No specific exposure standards are available for this product.
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 biological exposure limits noted for the ingredient(s).

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.
*Use explosion-proof electrical/ventilating/lighting equipment.

Personal Protection Equipment - Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen (refer to AS/NZS 1715 & 1716).
- 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, e.g. Nitrile rubber.
- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear chemically protective boots, aprons and gauntlets.

Special Hazards Precautions Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions.

Work Hygienic Practices Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse. 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 Mild, vinegar-like

Colour White or pale yellow

pH 4.5 - 7.5 (4% conc. in water)

Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	200 - 230 °C
Freezing Point	No Data Available
Solubility	Soluble in water (>80%)
Specific Gravity	3 - 52 mPa.s (4% conc. in water)
Flash Point	>93 °C
Auto Ignition Temp	440 °C
Evaporation Rate	No Data Available
Bulk Density	400 - 750 kg/m ³
Corrosion Rate	No Data Available
Decomposition Temperature	>160 °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	<=5 %
VOC Volume	No Data Available
Additional Characteristics	Heat of combustion: 5.99 kcal/g (1,100 kJ/mol)
Potential for Dust Explosion	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. The product can accumulate electrostatic charges, which may cause an electrical spark (ignition source).
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	The product is not flammable; may burn but does not ignite easily.
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	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability	Material is stable under normal conditions.

Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition. *Avoid temperatures exceeding the decomposition temperature. Avoid temperatures exceeding the flash point.
Materials to Avoid	Incompatible/reactive with strong oxidizing agents, strong acids.
Hazardous Decomposition Products	Fire/decomposition may produce irritating and/or toxic gases, including Alcohols, Carbon oxides, Aldehydes, organic acids.
Hazardous Polymerisation	Hazardous polymerisation does not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none">- Acute toxicity: Not classified. Expected to be a low ingestion hazard. Prolonged inhalation may be harmful.- Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation. Dust or powder may irritate the skin. Repeated exposure may cause skin dryness or cracking.- Eye damage/irritation: Direct contact with eyes may cause temporary irritation. Dust may irritate the eyes.- Respiratory/skin sensitisation: Not a respiratory sensitiser. This product is not expected to cause skin sensitisation.- Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.- Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Polyvinyl alcohol (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): May cause damage to organs - Eyes (Methanol). Dust may irritate respiratory system.- STOT (repeated exposure): Not classified.- Aspiration toxicity: Not an aspiration hazard.
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence/Degradability	Expected to be inherently biodegradable.
Mobility	No information available.
Environmental Fate	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.
Bioaccumulation Potential	The product is not expected to bioaccumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national 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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	Polyvinyl Alcohol (Fully Hydrolysed PVA)
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	METHANOL (excluding its derivatives) is listed in Schedule 5 of the SUSMP in preparations containing 10 % or less of methanol except in preparations containing 2 % or less of methanol.
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Poisons Schedule (Aust)	Schedule 5
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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)	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	POVIAL1300, POVIAL8600, POVIAL8700, POVIAL9000, POVIAL9800, POVIAL9801, POVIAL9810
Revision	5
Revision Date	01 Dec 2019
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 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 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</p>

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