



# SAFETY DATA SHEET SAN RESIN REVISION 4, DATE 28 JUN 21

## 1. IDENTIFICATION

<b>Product Name</b>	<b>SAN Resin</b>
<b>Other Names</b>	2-Propenenitrile, polymer with ethenylbenzene; AS Resin; KIBISAN PN-117C
<b>Uses</b>	For the production of molded plastic articles; For household appliances, electronic materials, automotive parts and industrial materials.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	(C <sub>8</sub> H <sub>8</sub> .C <sub>3</sub> H <sub>3</sub> N) <sub>x</sub>
<b>Chemical Name</b>	Acrylonitrile-Styrene Copolymer
<b>Product Description</b>	Thermoplastic polymer.

### 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

Redox Ltd  
Corporate Office Sydney  
Locked Bag 15 Minto NSW 2566 Australia  
2 Swettenham Road Minto NSW 2566 Australia  
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

Phone +61 2 9733 3000  
Fax +61 2 9733 3111  
E-mail sydney@redox.com  
Web www.redox.com  
ABN 92 000 762 345

Australia  
Adelaide  
Brisbane  
Melbourne  
Perth  
Sydney

New Zealand  
Auckland  
Christchurch  
Hawke's Bay  
UK  
London

Malaysia  
Kuala Lumpur  
USA  
Los Angeles  
Oakland  
Mexico  
Saltillo



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)
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Acrylonitrile-Styrene Copolymer	(C8H8.C3H3N)x	9003-54-7	>=99 %
Additives	Unspecified	Unspecified	<=1 %
Styrene (impurity)	C8H8	100-42-5	0 - <1 %

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. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Avoid rubbing 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. *In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Removal of solidified molten material from skin requires medical assistance.
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. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Evacuate non-essential personnel to safe area. Keep personnel removed from and upwind of fire. If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
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<b>Flammability Conditions</b>	Combustible solid; may burn but does not ignite readily.
<b>Extinguishing Media</b>	Use dry powder, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction - Do not use water jets.
<b>Fire and Explosion Hazard</b>	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.
<b>Hazardous Products of Combustion</b>	Combustion may produce irritating and/or toxic fumes, including carbon monoxide, carbon dioxide, nitrogen oxides, styrene, acrylonitrile, hydrocarbons, hydrogen cyanide. Fires involving this material may produce large amounts of sooty smoke.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control water - Runoff may cause pollution.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	60 g/m <sup>3</sup> (particle size <0.2 mm)
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	>400 °C
<b>Hazchem Code</b>	No Data Available

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flame). Do not touch or walk through spilled material - may cause slipping! Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area. Recover, if not contaminated, or dispose (see SECTION 13).
<b>Containment</b>	Stop leak if you can do it without risk. Prevent dust cloud.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Prevent entry into drains and waterways. Inform respective authorities in case product reaches water, sewage system or soil.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

## 7. HANDLING AND STORAGE

<b>Handling</b>	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 rough handling and handling which leads to dust formation. Avoid breathing dust/fumes and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). <b>WARNING:</b> May form combustible dust concentrations in air (during processing). 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.
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Store below 50 °C. Keep container tightly closed. Protect from water/moisture. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No specific exposure standards are available for this product. For dusts from solid substances without specific
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occupational exposure standards:

- Safe Work Australia Workplace Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m<sup>3</sup> (measured as inhalable dust).
  - WorkSafe New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m<sup>3</sup> (total); TWA = 3 mg/m<sup>3</sup> (respirable).
- IMPURITY: Styrene monomer (CAS No. 100-42-5):
- Safe Work Australia Workplace Exposure Standard: TWA = 50 ppm (213 mg/m<sup>3</sup>); STEL = 100 ppm (426 mg/m<sup>3</sup>).
  - WorkSafe New Zealand Workplace Exposure Standard [Adopted 2018]: TWA = 20 ppm (85 mg/m<sup>3</sup>); STEL = 40 ppm (170 mg/m<sup>3</sup>); Suspected human carcinogen (carcinogen category 2); Ototoxin (oto).

<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"> <li>- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Dust mask/respirator; Wear respirator for organic gases against fumes generated during processing of the resin.</li> <li>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side shields or chemical safety goggles.</li> <li>- Hand protection: Handle with gloves. Recommended: Impervious gloves. Wear heat resistant protective gloves when handling heated/high temperature polymer.</li> <li>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long-sleeved clothing or overalls, safety shoes. Wear heat resistant protective clothing when handling heated/high temperature polymer.</li> </ul>
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	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

<b>Physical State</b>	Solid
<b>Appearance</b>	Pellets
<b>Odour</b>	None or very slight, sweet
<b>Colour</b>	Transparent
<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>	No Data Available
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Insoluble in water - Partly soluble in organic solvents
<b>Specific Gravity</b>	1.02 - 1.08
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	>400 °C
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	Approx. 300 - 450 kg/m <sup>3</sup>
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	>300 °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>	No Data Available

<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>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	This product softens gradually over a broad temperature range (130 - 150 °C).
<b>Potential for Dust Explosion</b>	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.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Combustible solid; may burn but does not ignite readily.
<b>Reactions That Release Gases or Vapours</b>	Combustion/thermal decomposition may produce irritating and/or toxic fumes, including carbon monoxide, carbon dioxide, nitrogen oxides, styrene, acrylonitrile, hydrocarbons, hydrogen cyanide.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	No information available.
<b>Chemical Stability</b>	This product is considered stable under normal and anticipated storage and handling conditions.
<b>Conditions to Avoid</b>	Keep away from heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with solvents, oxidising agents.
<b>Hazardous Decomposition Products</b>	Combustion/thermal decomposition may produce irritating and/or toxic fumes, including carbon monoxide, carbon dioxide, nitrogen oxides, styrene, acrylonitrile, hydrocarbons, hydrogen cyanide.
<b>Hazardous Polymerisation</b>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none"> <li>- Ingestion: Swallowing may cause gastrointestinal irritation and pain.</li> <li>- Eye contact: Dust may cause eye irritation.</li> <li>- Skin contact: Dust may cause skin irritation. The melted product can cause severe burns.</li> <li>- Inhalation: Dust can cause respiratory irritation. This product may release small amount of volatile gases which may cause irritation to eyes, nose and throat. Styrene (impurity) is Harmful if inhaled, May cause respiratory irritation and May cause drowsiness and dizziness.</li> </ul> <p>Chronic effects: Styrene (impurity) is Suspected of causing genetic defects, Suspected of damaging the unborn child and Causes damage to the hearing organs through prolonged or repeated exposure.</p>
<b>Carcinogen Category</b>	None

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	Not expected to pose a significant ecological hazard.
<b>Persistence/Degradability</b>	The product is not easily biodegradable.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Prevent entry into drains and waterways.
<b>Bioaccumulation Potential</b>	Not expected to be bioaccumulative.
<b>Environmental Impact</b>	No Data Available

**13. DISPOSAL CONSIDERATIONS**

<b>General Information</b>	Dispose of contents/container to an authorised waste collection point and in accordance with local/regional/national regulations. Recycling uncontaminated packaging recommended.
<b>Special Precautions for Land Fill</b>	No information available.

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

ADG Code

<b>Proper Shipping Name</b>	SAN Resin
<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
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	SAN Resin
<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
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	SAN Resin
<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
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

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

US DOT

<b>Proper Shipping Name</b>	SAN Resin
<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
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	SAN Resin
<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
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	SAN Resin
<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>Comments</b>	NON-DANGEROUS GOODS: Not regulated for AIR transport.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; 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 &amp; 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 (AIRC)**

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)**

Not Determined

**Philippines (PICCS)**

Not Determined

**Switzerland (Giftliste 1)**

Not Determined

**Switzerland (Inventory of Notified Substances)**

Not Determined

**Taiwan (NCSR)**

Not Determined

**USA (TSCA)**

Listed

**16. OTHER INFORMATION**



# SAFETY DATA SHEET SAN RESIN REVISION 4, DATE 28 JUN 21

<b>Related Product Codes</b>	STACNI1000, STACNI1100, STACNI1120, STACNI1125, STACNI1127, STACNI1130, STACNI1200, STACNI1700, STACNI1701, STACNI1702, STACNI1703, STACNI1704
<b>Revision</b>	4
<b>Revision Date</b>	28 Jun 2021
<b>Reason for Issue</b>	updated sds
<b>Key/Legend</b>	<p>&lt; Less Than</p> <p>&gt; Greater Than</p> <p><b>AICS</b> Australian Inventory of Chemical Substances</p> <p><b>atm</b> Atmosphere</p> <p><b>CAS</b> Chemical Abstracts Service (Registry Number)</p> <p><b>cm<sup>2</sup></b> Square Centimetres</p> <p><b>CO<sub>2</sub></b> Carbon Dioxide</p> <p><b>COD</b> Chemical Oxygen Demand</p> <p><b>deg C (°C)</b> Degrees Celcius</p> <p><b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand</p> <p><b>deg F (°F)</b> Degrees Farenheit</p> <p><b>g</b> Grams</p> <p><b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre</p> <p><b>g/l</b> Grams per Litre</p> <p><b>HSNO</b> Hazardous Substance and New Organism</p> <p><b>IDLH</b> Immediately Dangerous to Life and Health</p> <p><b>immiscible</b> Liquids are insoluable in each other.</p> <p><b>inHg</b> Inch of Mercury</p> <p><b>inH<sub>2</sub>O</b> Inch of Water</p> <p><b>K</b> Kelvin</p> <p><b>kg</b> Kilogram</p> <p><b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre</p> <p><b>lb</b> Pound</p> <p><b>LC<sub>50</sub></b> LC stands for lethal concentration. LC<sub>50</sub> 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> <p><b>LD<sub>50</sub></b> LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.</p> <p><b>ltr or L</b> Litre</p> <p><b>m<sup>3</sup></b> Cubic Metre</p> <p><b>mbar</b> Millibar</p> <p><b>mg</b> Milligram</p> <p><b>mg/24H</b> Milligrams per 24 Hours</p> <p><b>mg/kg</b> Milligrams per Kilogram</p> <p><b>mg/m<sup>3</sup></b> Milligrams per Cubic Metre</p> <p><b>Misc or Miscible</b> Liquids form one homogeneous liquid phase regardless of the amount of either component present.</p> <p><b>mm</b> Millimetre</p> <p><b>mmH<sub>2</sub>O</b> Millimetres of Water</p> <p><b>mPa.s</b> Millipascals per Second</p> <p><b>N/A</b> Not Applicable</p> <p><b>NIOSH</b> National Institute for Occupational Safety and Health</p> <p><b>NOHSC</b> National Occupational Heath and Safety Commission</p> <p><b>OECD</b> Organisation for Economic Co-operation and Development</p> <p><b>Oz</b> Ounce</p> <p><b>PEL</b> Permissible Exposure Limit</p> <p><b>Pa</b> Pascal</p> <p><b>ppb</b> Parts per Billion</p> <p><b>ppm</b> Parts per Million</p> <p><b>ppm/2h</b> Parts per Million per 2 Hours</p> <p><b>ppm/6h</b> Parts per Million per 6 Hours</p> <p><b>psi</b> Pounds per Square Inch</p> <p><b>R</b> Rankine</p> <p><b>RCP</b> Reciprocal Calculation Procedure</p> <p><b>STEL</b> Short Term Exposure Limit</p> <p><b>TLV</b> Threshold Limit Value</p> <p><b>tne</b> Tonne</p> <p><b>TWA</b> Time Weighted Average</p> <p><b>ug/24H</b> Micrograms per 24 Hours</p> <p><b>UN</b> United Nations</p>

wt Weight