

1. IDENTIFICATION

Product Name	Vinsol
Other Names	Colophony; Dark Rosin; Gum Rosin; ROSIN
Uses	Air entraining agent in cements, mortars, and concrete to improve strength, workability, and freeze thaw resistance. Asphalt emulsifier for anionic, slow setting emulsions for paving, surfacing, and sealing applications. Adhesives and sealants Inks and coatings Binder in paperboard and composition board Foundry molds and core washes
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Vinsol
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
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.

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

Hazard Categories Sensitisation (Skin) - Category 1

Pictograms



Signal Word Warning

Hazard Statements
H317 May cause an allergic skin reaction.
USH232 May form combustible dust concentrations in air.

Precautionary Statements	Prevention	P202	Do not handle until all safety precautions have been read and understood.	
		P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
		P234	Keep only in original container.	
		P243	Take precautionary measures against static discharge.	
		P261	Avoid breathing fumes/mists/vapours/spray.	
		P264	Wash contacted areas thoroughly after handling.	
		P270	Do not eat, drink or smoke when using this product.	
		P272	Contaminated work clothing should not be allowed out of the workplace.	
		P280	Wear eye protection/face protection.	
		P285	In case of inadequate ventilation wear respiratory protection.	
		Response	P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
			P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
			P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
			P304 + P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.			
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.			
Storage	P314	Get medical advice/attention if you feel unwell.		
	P321	Specific treatment (see First Aid Measures on Safety Data Sheet).		
	P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.		
	P363	Wash contaminated clothing before reuse.		
Disposal	P402 + P404	Store in a dry place. Store in a closed container.		
	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.		
		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)

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
		6.5B	Substances that are contact sensitisers
	Environmental Hazards	9.1D	Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Dark Rosin	No Data Available	8050-09-7	100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	No adverse health effects are expected from accidental ingestion of small amounts of this product. For ingestion of large amounts: Do NOT induce vomiting. Get immediate medical attention.
Eye	HOT MOLTEN product: Cool burns with plenty of low-pressure water. Get immediate medical attention. SOLID product at ambient temperature: Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get medical attention if irritation persists.
Skin	HOT MOLTEN or HOT LIQUID product: Immediately cool skin burns with water and cold packs for at least 15 minutes. Do NOT put ice directly on the skin. Do NOT attempt to remove solidified resin from the skin as severe tissue damage may result. Get immediate medical attention. See Note to Physician. SOLID product at ambient temperature: Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Thoroughly wash clothing before reuse. See Note to Physician
Inhaled	Remove to fresh air. Get medical attention if nasal, throat or lung irritation develops. See Note to Physician.
Advice to Doctor	For HOT MOLTEN or HOT LIQUID product: Material should not be forcibly removed from the skin. Mineral oil may be used to loosen and soften the material. This product contains rosin or a rosin derivative. Rosin and some of its derivatives have been reported to cause an allergic skin reaction (sensitization) in susceptible individuals after repeated or prolonged skin contact. Smoke or fumes generated by heating product may lead to respiratory sensitization (asthma) in susceptible individuals.
Medical Conditions Aggravated by Exposure	This product contains rosin or a rosin derivative. Rosin and some of its derivatives have been reported to cause an allergic skin reaction (sensitization) in susceptible individuals after repeated or prolonged skin contact. Repeated exposure or smoke or fumes generated by heating product may lead to respiratory sensitization (asthma) in susceptible individuals.

5. FIRE FIGHTING MEASURES

Flammability Conditions	Product is a combustible solid.
Extinguishing Media	Water spray, dry chemical, foam, carbon dioxide or clean extinguishing agents may be used on fires involving this product. Apply water to HOT MOLTEN or HOT LIQUID resin fires from a safe, protected location to avoid body contact with hot resin. Cool containers with water to prevent rupture.
Hazardous Products of Combustion	Combustible solid. Product may burn if ignited. May form flammable dust-air mixtures. Static charges generated by emptying package in or near flammable vapours may cause flash fire. Incompatible materials are unknown. If heated to combustion, the following substances may be formed: carbon monoxide, carbon dioxide, aldehydes, carboxylic acids and smoke.
Personal Protective Equipment	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.

Flash Point	188 °C Closed Cup
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	470 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Avoid accidents, clean up immediately. Slippery when spilt. Personnel involved in the clean up should wear full protective clothing as listed in section 8. Evacuate all unnecessary personnel. 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.
Clean Up Procedures	For HOT MOLTEN or HOT LIQUID product: Wear protective equipment as required (see MSDS Section 8). Contain spilled material and allow it to cool and solidify. Do NOT apply water. After solidification, clean up and place in suitable containers for use or disposal. For SOLID product: Ventilate area. Avoid dust formation. If product is not contaminated, scoop into clean containers for use. If product is contaminated, scoop into containers, and dispose appropriately.
Environmental Precautionary Measures	Do not allow to enter sewers/ surface or ground water.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. For HOT MOLTEN or HOT LIQUID product: Use personal protective equipment as indicated in Section 8: Exposure Controls/Personal Protection. For SOLID product: Ground all equipment. Blanket vessel with inert gas when emptying bags where flammable vapours may be present. Ground operator and pour material slowly into conductive, grounded chute. For large bags (1000 lbs or greater) a ground cable MUST be attached to the bag ground connection. Store in cool, dry, well-ventilated area at approximately 20°C (68°C). Keep container closed when not in use. Control inventory. Rotate stock periodically. Use oldest material first. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or fumes. Handle in areas with adequate ventilation. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.
Storage	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. Avoid conditions that generate dust; product may form flammable dust-air mixtures. Avoid emptying package in or near flammable vapours; static charges may cause flash fire. Keep away from heat, flame, sparks and other ignition sources. Protect against physical damage. Store away from incompatible materials as listed in section 10. Spontaneous heating may occur if stored in a non-ventilated area at elevated temperatures. Keep away from heat, flame, sparks and other ignition sources. Store at ambient temperatures. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Keep container closed when not in use. Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). However, the exposure standard for dust not otherwise specified is 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust). ROSIN PYROLYSIS FUMES: If this product is heated to temperatures sufficient to produce smoke or fumes, maintain exposure to resin acids to the lowest achievable concentration using recommended engineering controls and personal protective equipment. NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine
----------------	--

dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

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. Adequate ventilation should be provided so that exposure limits are not exceeded. Discharge from the ventilation system should comply with applicable air pollution control regulations.

Personal Protection Equipment

RESPIRATOR: Wear a P2 particulate respirator when handling this product (AS1715/1716).
EYES: Safety glasses (AS1336/1337).
HANDS: Impervious gloves (AS2161).
CLOTHING: Appropriate protective clothing (AS3765/2210).
Personnel exposed to HOT MOLTEN or HOT LIQUID material should wear protective clothing that provides protection against thermal burns. Required Protective Equipment: a) Longsleeved protective shirt, long pants, and work shoes; b) Hard hat and face shield; c) Long-cuff gloves (Gauntlet type-extending beyond the wrist); d) Lined rainsuit with protective hood or shoulder shroud or e) Full aluminized or thermal suit with hood.
PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE: Eliminate ignition sources and prevent build-up of static electrical charges.
Completely isolate and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs. Keep area clean. Product will burn

Special Hazards Precautions

This product may present an inhalation health hazard if used under conditions that could generate dust or fumes.

Work Hygienic Practices

Eyewash fountains and safety showers should be easily accessible.
If user operations generate dust or fumes: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations.
Eliminate ignition sources and prevent build-up of static electrical charges.
Completely isolate and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs. Keep area clean. Product will burn.
Avoid contact with eyes, skin, and clothing.
Avoid breathing dust or fumes.
Handle in areas with adequate ventilation.
Avoid contamination of food, beverages, or smoking materials.
Wash thoroughly after handling, and before eating, drinking or smoking.
Remove contaminated clothing promptly and clean thoroughly before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Hot Molten Liquid, Solid, Flake or Powder
Odour	Pine
Colour	Dark Brown
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	>300 °C
Melting Point	103 - 123 °C Softening point
Freezing Point	No Data Available
Solubility	0.13 mg/L 25°C
Specific Gravity	1.3227
Flash Point	188 °C Closed Cup
Auto Ignition Temp	470 °C
Evaporation Rate	No Data Available
Bulk Density	560 - 640 kg/m³
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
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	Negligible at 20?
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is not explosive. However, formation of explosive air/dust mixtures are possible.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	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. Combustible Solid.
Conditions to Avoid	Water contact with HOT MOLTEN or HOT LIQUID resin may result in foaming or spattering, which can cause eye or skin burns, Avoid conditions that generate dust; product may form flammable dust-air mixtures, Avoid emptying package in or near flammable vapors; static charges may cause flash fire. Keep away from heat, flame, sparks and other ignition sources. Spontaneous heating may occur if stored in a non-ventilated area at elevated temperatures.
Materials to Avoid	Incompatible materials are unknown.
Hazardous Decomposition Products	If this product is used at elevated temperatures, it may generate combustion products.
Hazardous Polymerisation	Hazardous Polymerization has not been reported.

11. TOXICOLOGICAL INFORMATION

General Information	<p>DANGER!</p> <p>HOT MOLTEN product: Burns may cause irreversible eye injury and blindness. Causes skin burns. Inhalation of smoke or fumes may cause throat discomfort, coughing, or breathing difficulty. Product may burn if ignited.</p> <p>WARNING!</p> <p>Solid product at ambient temperature. Static charges generated by emptying package in or near flammable vapours may cause a flash fire. May form flammable dust-air mixtures. May cause eye irritation by mechanical abrasion. May cause skin irritation by mechanical abrasion. Inhalation of dust may cause respiratory tract irritation. May cause allergic skin reaction (sensitization) in susceptible individuals.</p> <p>PRODUCT/SIMILAR PRODUCT -</p> <p>Oral LD50 >2500 mg/kg (guinea pig) : >3000 mg/kg (mouse) : >4000 mg/kg (rat) :Dermal LD50 >2500 mg/kg (rabbit)</p> <p>Ninety-day oral subacute no effect level (rat): NOEL = 0.2-1.0% in diet. Signs of toxicity included refusal to eat, weight loss and death at highest level, depressed weight gain and liver enlargement.</p>
----------------------------	--

Two-year chronic oral no effect level (rat, dog): NOEL = 0.05% in diet. Signs of toxicity included temporary weight depression and liver enlargement in both species.

Not listed as a carcinogen by NTP.

Not regulated as a carcinogen by OSHA.

Not evaluated by IARC.

Mutagenicity/Genotoxicity Information: No mutagenicity studies have been carried out with this product.

Sensitisation

Due to the physical nature of this material, may cause eye, skin and respiratory irritation.

This product contains rosin or a rosin derivative. Rosin and some rosin derivatives have been reported to cause allergic skin reaction (sensitization) in susceptible individuals after repeated or prolonged contact. Smoke or fumes generated by heating may lead to respiratory sensitization (asthma) in susceptible individuals.

EyeIrritant

Due to the physical nature of this material, may cause eye irritation.

SOLID product at ambient temperature: May cause eye irritation by mechanical abrasion.

HOT MOLTEN product: Burns may cause irreversible eye injury and blindness.

Ingestion

No information available on the symptoms of ingestion for this product.

Inhalation

Due to the physical nature of this material, may cause respiratory irritation.

Smoke or fumes generated by heating may lead to respiratory sensitization (asthma) in susceptible individuals. SOLID product at ambient temperature: Inhalation may cause respiratory tract irritation. Prolonged exposure to smoke or fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing, or breathing difficulty. Repeated exposure may lead to respiratory sensitization (asthma) in susceptible individuals.

SkinIrritant

Due to the physical nature of this material, may cause skin irritation. This product contains rosin or a rosin derivative. Rosin and some rosin derivatives have been reported to cause an allergic skin reaction (sensitization) in susceptible individuals after repeated or prolonged contact. SOLID product at ambient temperature: May cause skin irritation by mechanical abrasion.

May cause allergic skin reaction (sensitization) in susceptible individuals.

HOT MOLTEN product: Causes skin burns.

Carcinogen Category

No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute 96-hour LL50 (Fathead minnow): > 1000 mg/l Acute 48-hour EL50 (Daphnia magna): 911 mg/l NOEL: 750 mg/l Algae growth inhibition test (72-hour EL50): > 1000 mg/l.

Persistence/Degradability

Based upon data from this or similar materials, this product cannot be regarded as readily biodegradable; however, it may be slowly biodegradable.

Mobility

No information available on mobility for this product.

Environmental Fate

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Bioaccumulation Potential

No information available on bioaccumulation for this product.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

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.

This should be done in accordance with 'The Hazardous Waste Act'.

For SOLID and HOT MOLTEN product that has been cooled and solidified: Landfilling in a permitted solid or hazardous waste facility is recommended.

Handling, transportation, and disposal of material should be conducted in a manner to prevent a nuisance dust hazard. Fully containerize the material before handling, and protect from exposure to the outdoors. Ensure there are no restrictions on disposing of bulk or semi-bulk quantities of waste material.

Disposal should be in accordance with all Federal, State and local regulations.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	VINSOL
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

Land Transport (Malaysia)

ADR

Proper Shipping Name	VINSOL
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

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	VINSOL
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

Land Transport (United States of America)

US DOT

Proper Shipping Name	VINSOL
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

Sea Transport

IMDG Code

Proper Shipping Name	VINSOL
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

Air Transport

IATA DGR

Proper Shipping Name	VINSOL
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

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	HSR002804
----------------------	-----------

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	232-475-7
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)	Listed

16. OTHER INFORMATION

Related Product Codes	PIRESI1000, PIRESI1001
Revision	2
Revision Date	22 Jun 2015
Reason for Issue	Updated sds
Key/Legend	<p>< Less Than > Greater Than</p> <p>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 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</p>

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