



SAFETY DATA SHEET 2-ETHYLHEXYL ACRYLATE REVISION 3, DATE 12 MAY 20

1. IDENTIFICATION

Product Name	2-Ethylhexyl Acrylate
Other Names	2-EHA; 2-Ethylhexyl 2-propenoate
Uses	As a monomer for the preparation of acrylate adhesives and binding agents.
Chemical Family	No Data Available
Chemical Formula	C ₁₁ H ₂₀ O ₂
Chemical Name	2-Propenoic acid, 2-ethylhexyl ester
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled



Globally Harmonised System

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

Hazard Categories Flammable Liquids - Category 4
Skin Corrosion/Irritation - Category 2
Sensitisation (Skin) - Category 1
Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms

Signal Word Warning

Hazard Statements

H227	Combustible liquid.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

Precautionary Statements	Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
		P271	Use only outdoors or in a well-ventilated area.
		P272	Contaminated work clothing should not be allowed out of the workplace.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
	Response	P261	Avoid breathing fumes/mists/vapours/spray.
		P302 + P352	IF ON SKIN: Wash with plenty of water.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		P333 + P313	If skin irritation or rash occurs: Get medical advice.
		P370 + P378	In case of fire: Use carbon dioxide (CO2), dry chemical, regular foam extinguishing agent or water spray for extinction.
		P312	Call a POISON CENTER or doctor if you feel unwell.
		P362 + P364	Take off contaminated clothing and wash it before reuse.
		Storage	P405
	P403 + P233		Store in a well-ventilated place. Keep container tightly closed.
	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)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	3.1D	Flammable liquid - low hazard
	Health Hazards	6.3A	Substances that are irritating to the skin

6.5B

Substances that are contact sensitisers

6.1E

Substances that are acutely toxic –May be harmful, Aspiration hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
2-Ethylhexyl acrylate	C11H20O2	103-11-7	>=99.5 %
Water	H2O	7732-18-5	<=0.05 %
Acrylic acid (free acid)	C3H4O2	79-10-7	<=0.03 %
Inhibitor (MEHQ)	C7H8O2	150-76-5	0.001 - 0.002 %

4. FIRST AID MEASURES**Description of necessary measures according to routes of exposure**

Swallowed	IF SWALLOWED: Rinse mouth, then give a glass of water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Immediately wash skin with plenty of soap and running water for at least 15 minutes, while removing contaminated clothing and shoes. If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep warm and at rest in a position comfortable for breathing. Remove contaminated clothing and loosen remaining clothing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	No action shall be taken involving any personal risk or without suitable training. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Medical Conditions Aggravated by Exposure	May cause an allergic skin reaction.

5. FIRE FIGHTING MEASURES

General Measures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal. Withdraw immediately in case of rising sound from venting safety devices or discolouration of tank. ALWAYS stay away from tanks engulfed in fire. *Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.
Flammability Conditions	Combustible liquid; Will be easily ignited by heat or flames.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use straight streams.
Fire and Explosion Hazard	Above 82 °C, vapours may form explosive mixtures with air. Vapour explosion hazard indoors, outdoors or in sewers. Vapours are heavier than air; They will spread along ground and collect in low or confined areas. May polymerize explosively when heated or involved in a fire. Containers may explode when heated. Risk of fire and explosion on contact

	with incompatible materials.
Hazardous Products of Combustion	The product decomposes on heating and on burning producing toxic and irritant fumes, including oxides of carbon, hydrocarbons.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will provide thermal protection but provides only limited chemical protection.
Flash Point	82 °C [Open cup]
Lower Explosion Limit	0.8 %
Upper Explosion Limit	6.4 %
Auto Ignition Temperature	252 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	No action shall be taken involving any personal risk or without suitable training. Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Slippery when spilt. Avoid accidents, clean up immediately! Avoid breathing fume/vapour and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb or cover with dry earth, sand or other non-combustible material and transfer to suitable, labelled containers for disposal (see SECTION 13). Use clean non-sparking tools to collect absorbed material. For large amounts, pump off product. *Contaminated absorbent material may pose the same hazard as the spilled product.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Move containers from spill area.
Decontamination	Ventilate spill area.
Environmental Precautionary Measures	Avoid dispersal of spilled material and runoff and contact with soil, water ways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Evacuation Criteria	Immediately isolate spill or leak area. Keep unauthorized and unprotected personnel away.
Personal Precautionary Measures	Wear protective equipment to avoid skin and eye contact and breathing in vapours (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice. Handle and open container with care; Do not open warm or swollen product containers. Ensure adequate inhibitor and dissolved oxygen levels. Avoid breathing fume/vapour and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Combustible liquid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Use explosion-proof electrical/ventilating/lighting equipment. The work area should be equipped with the corresponding species and quantity of fire equipment and leakage emergency equipment. *Vapours will be uninhibited and may polymerize in exhaust or ventilation facilities with risk of breakdown!
Storage	Store only if stabilized! Store in a cool, dry and well-ventilated place, protected from direct sunlight. Keep container tightly closed and sealed when not in use. Avoid physical damage to containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Inspect regularly for deficiencies such as damage or leaks. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Store locked up. The storage area should be equipped with the corresponding species and quantity of fire equipment and leakage emergency equipment. Use appropriate containment to avoid environmental contamination.
Container	Keep in the original container or an approved alternative made from a compatible material. Do not store with less than 10% headspace above liquid. The effectiveness of the inhibitor is dependent on the presence of oxygen in the liquid monomer. It is therefore essential the product is stored under air and NOT under an inert atmosphere.

*Empty containers retain product residue (liquid or vapour) and can be hazardous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, sparks or open flames.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No value assigned for this specific material by Safe Work Australia. COMPONENT: Acrylic acid (CAS No. 79-10-7): - Safe Work Australia Exposure Standard: TWA = 2 ppm (5.9 mg/m ³); Absorption through the skin may be a significant source of exposure (Sk). COMPONENT: Mequinol (CAS No. 150-76-5): - Safe Work Australia Exposure Standard: TWA = 5 mg/m ³ ; Respiratory and/or skin sensitiser (Sen).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection if, determined by a risk assessment, an inhalation risk exists. Recommended: Wear an organic vapour respirator (refer to AS/NZS 1715 & 1716). A full face positive pressure supplied-air respirator or self contained breathing apparatus should be used in case of large spill or fire. - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Use safety goggles or eye protection in combination with breathing protection. - Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear overalls, Safety shoes.
Special Hazards Precautions	The engineering controls also need to keep gas or vapour concentrations below any lower explosive limits. Vapours will be uninhibited and may polymerize in exhaust or ventilation facilities with risk of breakdown.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Characteristic
Colour	Colourless
pH	No Data Available
Vapour Pressure	19 Pa (@ 20 °C)
Relative Vapour Density	6.35 Air = 1
Boiling Point	213.5 °C
Melting Point	-90 °C
Freezing Point	No Data Available
Solubility	9.6 mg/L in water 25°C
Specific Gravity	0.89 (Water = 1)
Flash Point	82 °C [Open cup]
Auto Ignition Temp	252 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available

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	log Pow: 3.67
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	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	May polymerize explosively when heated or involved in a fire.
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 liquid; Will be easily ignited by heat or flames. Risk of fire and explosion on contact with incompatible materials.
Reactions That Release Gases or Vapours	The product decomposes on heating and on burning producing toxic and irritant fumes, including oxides of carbon, hydrocarbons.
Release of Invisible Flammable Vapours and Gases	Above 82 °C, vapours may form explosive mixtures with air. Vapour explosion hazard indoors, outdoors or in sewers.

10. STABILITY AND REACTIVITY

General Information	The effectiveness of the inhibitor is dependent on the presence of oxygen in the liquid monomer. It is therefore essential the product is stored under air and NOT under an inert atmosphere.
Chemical Stability	Stable in closed containers under specified storage and handling conditions.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid contact with incompatible materials.
Materials to Avoid	Incompatible/reactive with oxidising agents, peroxides, radical formers, radical forming initiators.
Hazardous Decomposition Products	The product decomposes on heating and on burning producing toxic and irritant fumes, including oxides of carbon, hydrocarbons.
Hazardous Polymerisation	The substance may polymerize spontaneously due to warming, under the influence of light and on contact with peroxides.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none">- Acute toxicity: Ingestion may cause abdominal pain, nausea, vomiting, diarrhoea.- Skin corrosion/irritation: Causes skin irritation. May cause pain and redness.- Eye damage/irritation: The chemical is not an eye irritant. Contact with liquid or vapour of this product may cause pain,
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and redness.

- Respiratory/skin sensitisation: May cause an allergic skin reaction.
- Germ cell mutagenicity: Based on the data available, the chemical is not considered to be genotoxic [NICNAS].
- Carcinogenicity: Based on the limited data available, the chemical is not expected to be carcinogenic [NICNAS]. 2-Ethylhexyl acrylate (CAS No. 103-11-7) is classified by the IARC Monographs [2019] as "Possibly carcinogenic to humans" (Group 2B). COMPONENT: Acrylic acid (CAS No. 79-10-7) is classified by the IARC Monographs as "Not classifiable as to its carcinogenicity to humans" (Group 3).
- Reproductive toxicity: Based on the available data, the chemical is not considered to have reproductive or developmental toxicity [NICNAS].
- STOT (single exposure): May cause respiratory irritation. Inhalation may cause cough, sore throat.
- STOT (repeated exposure): Based on the data available, the chemical is not considered to cause serious systemic effects from repeated exposure. However, local irritation effects are expected.
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Rat: 6,700 mg/kg [2-Ethylhexyl acrylate].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Aquatic toxicity:
COMPONENT: 2-Ethylhexyl acrylate (CAS No. 103-11-7):
- LC50, Fish (*Leuciscus idus melanotus*): 23 mg/l (48 h).
- EC50, Crustacea (*Daphnia magna*): 17.45 mg/l (48 h).
- EC50, Algae/aquatic plants (*Scenedesmus subspicatus*): 44 mg/l (72 h).

Persistence/Degradability

The material is readily biodegradable.

Mobility

No information available.

Environmental Fate

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Bioaccumulation Potential

No information available.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Special Precautions for Land Fill

Contaminated packaging material should be treated equivalent to residual chemical. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation.

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

ADG Code

Proper Shipping Name

2-Ethylhexyl acrylate

Class

C1 Combustible Liquids - Flash Point >60°C - ≤93°C, Closed Cup

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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	2-Ethylhexyl acrylate
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	2-Ethylhexyl acrylate
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	2-Ethylhexyl acrylate
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	2-Ethylhexyl acrylate
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	Aviation regulated liquid, N.O.S. (2-Ethylhexyl acrylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3334
Hazchem	2Z
Pack Group	III
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)
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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	HSR002650 HSR001387 (Revoked)
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	203-080-7

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Europe (REACH)	Listed
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	ETHEAC1000, ETHEAC1001, ETHEAC1002, ETHEAC1003, ETHEAC1004, ETHEAC1005, ETHEAC1006, ETHEAC1007, ETHEAC1008, ETHEAC1009, ETHEAC2000, ETHEAC2001, ETHEAC3000, ETHEAC4000, ETHEAC5000, ETHEAC6000, ETHEAC6100, ETHEAC7000, ETHEAC7001, ETHEAC8000, ETHEAC8100, ETHEAC8101, ETHEAC9000
Revision	3
Revision Date	12 May 2020
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 Fahrenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluble in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours</p>

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