

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Citric acid, anhydrous</b>
<b>Other Names</b>	1,2,3-Propanetricarboxylic acid, 2-hydroxy; 2-Hydroxy-1,2,3-propanetricarboxylic acid; 2-Hydroxypropane-1,2,3-tricarboxylic acid
<b>Uses</b>	Food applications.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
<b>Chemical Name</b>	1,2,3-Propanetricarboxylic acid, 2-hydroxy-
<b>Product Description</b>	Organic acid

### 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** Skin Corrosion/Irritation - Category 2  
 Serious Eye Damage/Irritation - Category 2A  
 Specific Target Organ Toxicity (Single Exposure) - Category 3

**Pictograms**

**Signal Word** Warning

**Hazard Statements**

<b>H315</b>	Causes skin irritation.
<b>H319</b>	Causes serious eye irritation.
<b>H335</b>	May cause respiratory irritation.

**Precautionary Statements**

Prevention	<b>P280</b>	Wear protective gloves/eye protection/face protection.
	<b>P261</b>	Avoid breathing dust.
	<b>P271</b>	Use only outdoors or in a well-ventilated area.
Response	<b>P302 + P352</b>	IF ON SKIN: Wash with plenty of water.
	<b>P337 + P313</b>	If eye irritation persists: Get medical advice.
	<b>P312</b>	Call a POISON CENTER or doctor if you feel unwell.
	<b>P332 + P313</b>	If skin irritation occurs: Get medical advice.
	<b>P362</b>	Take off contaminated clothing.
	<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	<b>P403 + P233</b>	Store in a well-ventilated place. Keep container tightly closed.
Disposal	<b>P405</b>	Store locked up.
	<b>P501</b>	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)

**Safe Work Australia**

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

**Hazard Classification** Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Citric acid	C6H8O7	77-92-9	<=100 %

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

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth with water, then drink plenty of water. Do NOT induce vomiting. Get medical advice/attention.
<b>Eye</b>	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.
<b>Skin</b>	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.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Combustible material; May burn but does not ignite readily.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction.
<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>	Fire may produce irritating and/or toxic gases, including oxides of Carbon.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution 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>	345 °C
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Collect material (sweep or vacuum up) and place into suitable containers for disposal (see SECTION 13). Avoid dispersal of dust in the air (i.e. clearing dusty surfaces with compressed air). Non-sparking tools should be used.
<b>Containment</b>	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Prevent dust cloud.

<b>Decontamination</b>	Neutralise residues with lime or soda ash; Wash away remainder with plenty of water.
<b>Environmental Precautionary Measures</b>	Prevent entry into drains and waterways.
<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 - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. 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.
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
<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 occupational exposure standards: - Safe Work Australia Exposure Standard for Nuisance dusts: 8 hr TWA = 10 mg/m <sup>3</sup> (measured as inhalable dust). - New Zealand WES for Particulates not otherwise classified: TWA = 10 mg/m <sup>3</sup> ; TWA = 3 mg/m <sup>3</sup> (respirable dust). - OSHA PEL for Particulates not otherwise regulated: TWA = 15 mg/m <sup>3</sup> (total); TWA = 5 mg/m <sup>3</sup> (respirable).
<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>	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Chemical goggles. - Hand protection: Wear protective gloves. Recommended: Impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystalline powder or granular
<b>Odour</b>	Odourless

<b>Colour</b>	Colourless to white
<b>pH</b>	2.0 - 2.5 (1% solution)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	Decomposes before boiling
<b>Melting Point</b>	ca. 153 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Soluble in water (590 g/L) 20°C
<b>Specific Gravity</b>	1.665
<b>Flash Point</b>	345 °C
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<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>	No information available.
<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 material; May burn but does not ignite readily.
<b>Reactions That Release Gases or Vapours</b>	Fire/decomposition may produce irritating and/or toxic gases, including oxides of Carbon.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Reacts exothermically with alkalis.
<b>Chemical Stability</b>	Stable under normal storage and handling conditions.

<b>Conditions to Avoid</b>	Avoid generating dust. Keep away from heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents, alkalis, carbon steel.
<b>Hazardous Decomposition Products</b>	Fire/decomposition may produce irritating and/or toxic gases, including oxides of Carbon.
<b>Hazardous Polymerisation</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"><li>- Acute toxicity: No adverse health effects expected; Swallowing (large amounts) may cause abdominal pain, nausea, vomiting and irritation to the mouth and throat. Physiological disturbances may include acidosis and calcium deficiency; The substance may have effects on the teeth, resulting in erosion.</li><li>- Skin corrosion/irritation: Causes skin irritation, redness.</li><li>- Eye damage/irritation: Causes serious eye irritation.</li><li>- Respiratory/skin sensitisation: No evidence of sensitisation.</li><li>- Germ cell mutagenicity: No evidence of mutagenicity.</li><li>- Carcinogenicity: No evidence of carcinogenicity.</li><li>- Reproductive toxicity: No evidence of reproductive or developmental toxicity.</li><li>- STOT (single exposure): May cause respiratory irritation; Inhalation of citric acid aerosols may induce coughing and broncho-constriction [NICNAS].</li><li>- STOT (repeated exposure): Not considered to cause serious damage to health from repeated (oral) exposure [NICNAS].</li><li>- Aspiration toxicity: No information available.</li></ul>
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): <ul style="list-style-type: none"><li>- LD50, Mouse: 5,400 - 5,790 mg/kg [equiv. OECD TG 401; ECHA].</li><li>- LD50, Rat: 11,700 mg/kg [equiv. OECD TG 401; ECHA].</li></ul>
<b>Other</b>	Acute toxicity (Dermal): <ul style="list-style-type: none"><li>- LD50, Rats: &gt;2,000 mg/kg bw. [NICNAS].</li></ul>
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Aquatic toxicity: <ul style="list-style-type: none"><li>- LC50, Fish (<i>Leuciscus idus melanotus</i>): 440 mg/L (48 h) [ECHA].</li><li>- EC50, Crustacea (<i>Daphnia magna</i>): 1,535 mg/L (24 h) mobility [ECHA].</li></ul>
<b>Persistence/Degradability</b>	Readily biodegradable.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Prevent entry into drains and waterways.
<b>Bioaccumulation Potential</b>	Low potential for bioaccumulation.
<b>Environmental Impact</b>	No Data Available

## 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	No information available.

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

ADG Code

<b>Proper Shipping Name</b>	Citric acid, anhydrous
<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 (China)**

<b>Proper Shipping Name</b>	Citric acid, anhydrous
<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>	Citric acid, anhydrous
<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>	Citric acid, anhydrous
<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

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**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** Citric acid, anhydrous  
**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** Citric acid, anhydrous  
**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** Citric acid, anhydrous  
**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)



**15. REGULATORY INFORMATION**

**General Information** WCO (World Customs organisation) HS Code: 2918.14  
**Poisons Schedule (Aust)** Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

**Approval Code** Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020 HSR002503  
 \*HSR003138 (Revoked)

**National/Regional Inventories**

<b>Australia (AIRC)</b>	Listed
<b>Canada (DSL)</b>	Listed
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Listed
<b>Europe (EINECS)</b>	Not Determined
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Listed
<b>Korea (KECI)</b>	Listed
<b>Malaysia (EHS Register)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Listed
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Listed
<b>USA (TSCA)</b>	Listed

**16. OTHER INFORMATION**

**Related Product Codes** CIACID0060, CIACID0200, CIACID0201, CIACID0205, CIACID0206, CIACID0208, CIACID0300, CIACID0301, CIACID0400, CIACID0401, CIACID0600, CIACID0601, CIACID0602, CIACID0603, CIACID0604, CIACID0605, CIACID0700, CIACID0701, CIACID0702, CIACID0703, CIACID0750, CIACID0800, CIACID0801, CIACID0900, CIACID0901, CIACID1000, CIACID1001, CIACID1002, CIACID1003, CIACID1004, CIACID1005, CIACID1006, CIACID1007, CIACID1008, CIACID1009, CIACID1010, CIACID1011, CIACID1012, CIACID1013, CIACID1014, CIACID1015, CIACID1016, CIACID1017, CIACID1018, CIACID1019, CIACID1020, CIACID1021, CIACID1022, CIACID1023, CIACID1024, CIACID1025, CIACID1026, CIACID1027, CIACID1028, CIACID1030, CIACID1031, CIACID1032, CIACID1033, CIACID1034, CIACID1035, CIACID1036, CIACID1037, CIACID1038, CIACID1039, CIACID1040, CIACID1041, CIACID1042, CIACID1043, CIACID1044, CIACID1045, CIACID1046, CIACID1047, CIACID1048, CIACID1049, CIACID1050, CIACID1051, CIACID1052, CIACID1053, CIACID1054, CIACID1055, CIACID1056, CIACID1057, CIACID1058, CIACID1059, CIACID1060, CIACID1061, CIACID1062, CIACID1063, CIACID1064, CIACID1065,

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**Revision**

6

**Revision Date**

13 Jan 2022

**Key/Legend**

&lt; Less Than

&gt; Greater Than

**AICS** Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm<sup>2</sup>** Square Centimetres**CO<sub>2</sub>** 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

## SAFETY DATA SHEET CITRIC ACID, ANHYDROUS REVISION 6, DATE 13 JAN 22

**g** Grams  
**g/cm<sup>3</sup>** 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  
**inH<sub>2</sub>O** Inch of Water  
**K** Kelvin  
**kg** Kilogram  
**kg/m<sup>3</sup>** 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  
**m<sup>3</sup>** Cubic Metre  
**mbar** Millibar  
**mg** Milligram  
**mg/24H** Milligrams per 24 Hours  
**mg/kg** Milligrams per Kilogram  
**mg/m<sup>3</sup>** Milligrams per Cubic Metre  
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.  
**mm** Millimetre  
**mmH<sub>2</sub>O** 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