



# SAFETY DATA SHEET GLYCOLIC ACID 70% SOLUTION REVISION 4, DATE 30 JUL 19

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Glycolic Acid 70% Solution</b>
<b>Other Names</b>	Glycolic Acid 70% Commercial Grade; Glycolic Acid Cosmetic Grade; Hydroxyacetic acid solution
<b>Uses</b>	Household & institutional cleaners; Water treatment; Metal processing; Electronics; Leather & textile dyeing and finishing; Oil & gas well applications; Adhesives; Lubricating oil additives; Cement strengthening; Cosmetic.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C <sub>2</sub> H <sub>4</sub> O <sub>3</sub>
<b>Chemical Name</b>	Glycolic acid, aqueous solution
<b>Product Description</b>	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

<b>Hazard Classification</b>		Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
<b>Hazard Categories</b>		Acute Toxicity (Inhalation) - Category 4 Skin Corrosion/Irritation - Category 1B Serious Eye Damage/Irritation - Category 1 Acute Hazard To The Aquatic Environment - Category 3	
<b>Pictograms</b>		 	
<b>Signal Word</b>		Danger	
<b>Hazard Statements</b>		<b>H314</b>	Causes severe skin burns and eye damage.
		<b>H332</b>	Harmful if inhaled.
		<b>H402</b>	Harmful to aquatic life.
<b>Precautionary Statements</b>	Prevention	<b>P260</b>	Do not breathe mist/vapour/spray.
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
		<b>P273</b>	Avoid release to the environment.
		<b>P271</b>	Use only outdoors or in a well-ventilated area.
	Response	<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		<b>P310</b>	Immediately call a POISON CENTER or doctor.
		<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.
		<b>P301 + P330 + P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		<b>P363</b>	Wash contaminated clothing before reuse.
		<b>P391</b>	Collect spillage.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	<b>P405</b>	Store locked up.
	Disposal	<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 &amp; Rail (ADG Code)

<b>Dangerous Goods Classification</b>	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
Glycolic acid	C2H4O3	79-14-1	68 - 72 %
Water	H2O	7732-18-5	28 - 32 %
Formic acid	CH2O2	64-18-6	0 - <1 %

#### 4. FIRST AID MEASURES

##### *Description of necessary measures according to routes of exposure*

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink a glass of water. Do NOT induce vomiting. Immediately call a Poison Center or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<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. Immediately call a Poison Centre or doctor/physician for advice.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. Immediately call a Poison Centre or doctor/physician for advice.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device - Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
<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. Avoid getting water inside containers.
<b>Flammability Conditions</b>	Non-combustible; Material itself does not burn.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use water jets. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Fire and Explosion Hazard</b>	Containers may explode when heated. Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous Products of Combustion</b>	Fire or heat will produce irritating, toxic and/or corrosive gases, including Hydrogen cyanide, oxides of Nitrogen.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for this material.
<b>Flash Point</b>	No Data Available
<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>	2X

#### 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Do not breathe vapours and prevent contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Absorb with earth, sand or other non-combustible material and transfer to a suitable, properly labelled container for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Cover with plastic sheet to prevent spreading.
<b>Decontamination</b>	Neutralise residues with lime or soda ash.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Immediately contact Police or Fire Brigade; Consider initial downwind evacuation of areas within at least 250 m.
<b>Personal Precautionary Measures</b>	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

## 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. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Avoid release to the environment.
<b>Storage</b>	Store (above 10 °C) in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed - Check regularly for leaks. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and 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.
<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: In case of inadequate ventilation, wear respiratory protection. Recommended: Particulate/mist respirator (refer to AS/NZS 1715 &amp; 1716).</li><li>- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles; Face-shield.</li><li>- Hand protection: Wear protective gloves. Recommended: Elbow-length impervious gloves, e.g. Chloroprene.</li><li>- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls, splash apron, rubber boots.</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. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear liquid
<b>Odour</b>	Mild; of burnt sugar
<b>Colour</b>	Light amber/yellow
<b>pH</b>	0.1 (25 °C)
<b>Vapour Pressure</b>	0.017 hPa (@ 25 °C)
<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>	10 °C
<b>Solubility</b>	Completely miscible with water
<b>Specific Gravity</b>	1.27
<b>Flash Point</b>	No Data Available
<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>	1.27 g/cm <sup>3</sup>
<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>	log Pow: -1.11 (19 °C)
<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>	11.28 mPa.s (15.6 °C) - 3.49 mPa.s (43.3 °C) (@ 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>	Not applicable.
<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>	Non-combustible; Material itself does not burn.
<b>Reactions That Release Gases or Vapours</b>	Fire or heat will produce irritating, toxic and/or corrosive gases, including Hydrogen cyanide, oxides of Nitrogen.
<b>Release of Invisible Flammable Vapours and Gases</b>	Contact with metals may evolve flammable hydrogen gas.

## 10. STABILITY AND REACTIVITY

General Information	Contact with metals may evolve flammable hydrogen gas.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Protect from freezing (Store above 10 °C).
Materials to Avoid	Incompatible/reactive with cyanides, sulphides, oxidising agents, active metals.
Hazardous Decomposition Products	Fire or heat will produce irritating, toxic and/or corrosive gases, including Hydrogen cyanide, oxides of Nitrogen.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

## 11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"><li>- Acute toxicity: Harmful if inhaled. Ingestion may cause chemical burns to the gastrointestinal tract.</li><li>- Skin corrosion/irritation: Causes severe skin burns. Corrosive (Rabbit) [OECD 404].</li><li>- Eye damage/irritation: Causes serious eye damage. Corrosive (Rabbit) [OECD 405].</li><li>- Respiratory/skin sensitisation: Not a skin sensitiser.</li><li>- Germ cell mutagenicity: Evidence suggests this substance does not cause genetic damage in cultured bacterial cells. Animal testing did not show any mutagenic effects.</li><li>- Carcinogenicity: Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.</li><li>- Reproductive toxicity: No toxicity to reproduction. Based on the weight of evidence, Glycolic acid is not considered a unique developmental hazard to the embryo.</li><li>- STOT (single exposure): Not classified as specific target organ toxicant, single exposure. Inhalation of mist/vapours/aerosols will cause respiratory irritation.</li><li>- STOT (repeated exposure): Not classified as specific target organ toxicant, repeated exposure.</li><li>- Aspiration toxicity: No aspiration toxicity classification.</li></ul>
Acute	
Ingestion	Acute toxicity (Oral): COMPONENT: Glycolic acid (CAS No. 79-14-1): - LD50, Rat: 2,040 mg/kg [Supplier's SDS]. COMPONENT: Formic acid (CAS No. 64-18-6): - LD50, Rat: 730 mg/kg [Supplier's SDS].
Inhalation	Acute toxicity (Inhalation): COMPONENT: Glycolic acid (CAS No. 79-14-1): - LC50, Rat: 3.6 mg/L (4 h) mist [Supplier's SDS]. COMPONENT: Formic acid (CAS No. 64-18-6): - LC50, Rat: 7.4 mg/L (4 h) vapour [Supplier's SDS].
Carcinogen Category	None

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: COMPONENT: Glycolic acid (CAS No. 79-14-1): - LC50, Fish (Pimephales promelas): 164 mg/L (96 h) [Supplier's SDS].
Persistence/Degradability	Readily biodegradable (89.6 %, 7 d).
Mobility	No information available.
Environmental Fate	Harmful to aquatic life - Avoid release to the environment.
Bioaccumulation Potential	Bioconcentration factor (BCF): 3.16
Environmental Impact	No Data Available

## 13. DISPOSAL CONSIDERATIONS

**General Information**

Dispose of contents/container through a licensed waste contractor and in accordance with local/regional/national regulations.

**Special Precautions for Land Fill**

Contaminated packaging: Do not re-use empty containers.

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

ADG Code

<b>Proper Shipping Name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	37 Toxic And/Or Corrosive Substances Non-Combustible
<b>UN Number</b>	3265
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	37 Toxic And/Or Corrosive Substances Non-Combustible
<b>UN Number</b>	3265
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	37 Toxic And/Or Corrosive Substances Non-Combustible
<b>UN Number</b>	3265
<b>Hazchem</b>	2X
<b>Pack Group</b>	II
<b>Special Provision</b>	No Data Available

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

US DOT

<b>Proper Shipping Name</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	153 Substances - Toxic and/or Corrosive (Combustible)

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UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

### Sea Transport

IMDG Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

### Air Transport

IATA DGR

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains Glycolic acid)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3265
Hazchem	2X
Pack Group	II
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	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	GLYCOLIC ACID (including its salts and esters) is listed in Schedule 6 of the SUSMP in cosmetic products or when packed and labelled for use as an agricultural chemical.
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 Corrosive Group Standard 2020 HSR002491 *HSR004487 (Revoked)
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### National/Regional Inventories



Australia (AIIIC)	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)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

## 16. OTHER INFORMATION

Related Product Codes	GLACID1000, GLACID1001, GLACID1002, GLACID1003, GLACID1004, GLACID1005, GLACID1007, GLACID1008, GLACID1016, GLACID1020, GLACID1026, GLACID1070, GLACID1077, GLACID1100, GLACID1110, GLACID1120, GLACID1500, GLACID2500, GLACID2501, GLACID2510, GLACID2511, GLACID3000, GLACID4000, GLACID5000, GLACID5500, GLACID5501
Revision	4
Revision Date	30 Jul 2019
Key/Legend	<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>

**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