



SAFETY DATA SHEET
MONOBUTYLTIN TRICHLORIDE (MBTC)
REVISION 4, DATE 10 MAY 19

1. IDENTIFICATION

| | |
|----------------------------|---|
| Product Name | Monobutyltin trichloride (MBTC) |
| Other Names | Butyltin trichloride; Mono-n-butyltin trichloride |
| Uses | Industrial use; Laboratory chemicals; Catalyst; Intermediate; Stabiliser. *Uses advised against: Biocidal products; Water treatment chemicals. |
| Chemical Family | No Data Available |
| Chemical Formula | C ₄ H ₉ Cl ₃ Sn |
| Chemical Name | Stannane, butyltrichloro- |
| 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

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

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

| | | |
|-----------|--------------|--------------|
| Australia | New Zealand | Malaysia |
| Adelaide | Auckland | Kuala Lumpur |
| Brisbane | Christchurch | USA |
| Melbourne | Hawke's Bay | Los Angeles |
| Perth | UK | Oakland |
| Sydney | London | Mexico |
| | | Saltillo |



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 1C
 Serious Eye Damage/Irritation - Category 1
 Specific Target Organ Toxicity (Single Exposure) - Category 3
 Acute Hazard To The Aquatic Environment - Category 1
 Long-term Hazard To The Aquatic Environment - Category 1

Pictograms

Signal Word Danger

Hazard Statements

| | |
|---------------|---|
| H314 | Causes severe skin burns and eye damage. |
| H335 | May cause respiratory irritation. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| AUH071 | Corrosive to the respiratory tract |

| | | | | |
|---------------------------------|------------|---------------------------|--|---|
| Precautionary Statements | Prevention | P260 | Do not breathe mist/vapour/spray. | |
| | | P280 | Wear protective gloves/protective clothing/eye protection/face protection. | |
| | | P273 | Avoid release to the environment. | |
| | | P271 | Use only outdoors or in a well-ventilated area. | |
| | Response | P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. | |
| | | P310 | Immediately call a POISON CENTER or doctor. | |
| | | P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. | |
| | | P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. | |
| | | P363 | Wash contaminated clothing before reuse. | |
| | | P391 | Collect spillage. | |
| | | P304 + P340 | IF INHALED: Remove victim to fresh air and keep comfortable for breathing. | |
| | | Storage | P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| | | | P405 | Store locked up. |
| | | 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 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 8.2C | Substances that are corrosive to dermal tissue UN PGIII |
| | 8.3A | Substances that are corrosive to ocular tissue |

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

| Chemical Entity | Formula | CAS Number | Proportion |
|---------------------------------|------------|------------|----------------|
| Monobutyltin trichloride | C4H9Cl3Sn | 1118-46-3 | >=98.6 - 100 % |
| Contains: Dibutyltin dichloride | C8H18Cl2Sn | 683-18-1 | <=0.2 % |

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

| | |
|---|--|
| Swallowed | IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. |
| 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. Immediately call a Poison Centre or doctor/physician for advice. |
| Skin | IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least 15 minutes. For minor skin contact, avoid spreading material onto unaffected skin. Immediately call a Poison Centre or doctor/physician for advice. Wash contaminated clothing and shoes before reuse. |
| Inhaled | 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. 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 | Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. |
| Medical Conditions Aggravated by Exposure | No information available. |

5. FIRE FIGHTING MEASURES

| | |
|------------------------------------|--|
| General Measures | If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. |
| Flammability Conditions | May burn but does not ignite readily. |
| Extinguishing Media | Use dry chemical, Carbon dioxide, alcohol-resistant foam or water spray for extinction - Do not use water with full jet. Use fire extinguishing methods suitable to surrounding conditions. |
| Fire and Explosion Hazard | Product does not present an explosion hazard. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. |
| Hazardous Products of Combustion | Fire or heat will produce irritating, toxic and/or corrosive gases, including Carbon monoxide, Carbon dioxide, Hydrogen chloride (HCl). |
| Special Fire Fighting Instructions | Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and cause pollution. |
| Personal Protective Equipment | Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. |
| Flash Point | None |

| | |
|---------------------------|-------------------|
| Lower Explosion Limit | No Data Available |
| Upper Explosion Limit | No Data Available |
| Auto Ignition Temperature | 560 °C |
| Hazchem Code | 2X |

6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------------------------|---|
| General Response Procedure | Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames). Do not touch or walk through spilled material. Do not breathe fumes and prevent contact with eyes, skin and clothing. |
| Clean Up Procedures | Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Dispose of the material collected according to regulations (see SECTION 13). |
| Containment | Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. |
| Decontamination | Use neutralising agent. |
| Environmental Precautionary Measures | Spillages and decontamination runoff should be prevented from entering drains and watercourses. |
| Evacuation Criteria | Spill or leak area should be isolated immediately. Keep unprotected/unauthorised personnel away. Keep upwind and to higher ground. |
| Personal Precautionary Measures | Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (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 area. Handle in accordance with good industrial hygiene and safety practice. Prevent formation of aerosols. Do not breathe gases/fumes/aerosols and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). |
| Storage | Store in the dark in a cool, dry and well-ventilated place. Keep container tightly closed. Avoid extremes of temperature and direct sunlight. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Store locked up. |
| Container | Store only in the original receptacle. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|-------------------|--|
| General | No specific exposure standards are available for this product. For Tin, organic compounds: - Safe Work Australia Exposure Standard (as Sn): TWA = 0.1 mg/m ³ ; STEL = 0.2 mg/m ³ ; Absorption through the skin may be a significant source of exposure (Sk). - New Zealand Workplace Exposure Standard (as Sn): TWA = 0.1 mg/m ³ ; STEL = 0.2 mg/m ³ ; Skin absorption (skin); Ototoxin (oto). |
| Exposure Limits | No Data Available |
| Biological Limits | Derived no-effect levels (DNELs): - Workers (Industrial/professional) Dermal (long-term, systemic effects): 1 mg/kg bw/day. - Workers (Industrial/professional) Dermal (short-term, systemic effects): 1 mg/kg bw/day. - Workers (Industrial/professional) Inhalative (long-term, local effects): 0.10 mg/m ³ . - Workers (Industrial/professional) Inhalative (long-term, systemic effects): 0.11 mg/m ³ . - Workers (Industrial/professional) Inhalative (short-term, local effects): 4.83 mg/m ³ . - Workers (Industrial/professional) Inhalative (short-term, systemic effects): 2.11 mg/m ³ . Predicted no-effect concentrations (PNECs): - Freshwater: 0.00031 mg/L - Marine water: 0.000031 mg/L |

- Intermittent release: 0.0031 mg/L
- STP: 1.345 mg/L
- Freshwater sediment: 0.0024 mg/kg dw.
- Marine water sediment: 0.00024 mg/kg dw.
- Soil: 0.00035 mg/kg dw.

| | |
|-------------------------------|--|
| 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. |
| Personal Protection Equipment | <ul style="list-style-type: none">- Respiratory protection: In case of brief exposure or low pollution, use respiratory filter device. In case of intensive or longer exposure, use self-contained respiratory protective device. Recommended filter type: A/P (organic vapour + particulate).- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly sealed goggles.- Hand protection: Wear protective gloves. Recommended: The glove material has to be impermeable and resistant to the product/substance/preparation; Selection of the glove material on consideration of the penetration times, rates of diffusion and degradation.- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Protective work clothing. |
| Special Hazards Precautions | No information available. |
| Work Hygienic Practices | Do not eat, drink, smoke or sniff while working. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing and wash it before reuse. Store protective clothing separately. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|-----------------------------------|
| Physical State | Liquid |
| Appearance | Liquid |
| Odour | Characteristic |
| Colour | Yellow-brown |
| pH | No Data Available |
| Vapour Pressure | 0.1 hPa [EU method A.4] (@ 20 °C) |
| Relative Vapour Density | No Data Available |
| Boiling Point | 196 °C |
| Melting Point | -63 °C |
| Freezing Point | -63 °C |
| Solubility | Miscible with water |
| Specific Gravity | No Data Available |
| Flash Point | None |
| Auto Ignition Temp | 560 °C |
| Evaporation Rate | No Data Available |
| Bulk Density | No Data Available |
| Corrosion Rate | No Data Available |
| Decomposition Temperature | >210 °C |
| Density | 1.69 g/cm3 |
| Specific Heat | No Data Available |
| Molecular Weight | No Data Available |
| Net Propellant Weight | No Data Available |
| Octanol Water Coefficient | log Pow: 1.145 |
| Particle Size | No Data Available |
| Partition Coefficient | No Data Available |
| Saturated Vapour Concentration | No Data Available |
| Vapour Temperature | No Data Available |

| | |
|--|--|
| Viscosity | 2.25 mm2/s (@ 20 °C) |
| 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 | No information available. |
| 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 | May burn but does not ignite readily. |
| Reactions That Release Gases or Vapours | Fire or heat will produce irritating, toxic and/or corrosive gases, including Carbon monoxide, Carbon dioxide, Hydrogen chloride (HCl); Tin oxide fumes. |
| Release of Invisible Flammable Vapours and Gases | Contact with metals may evolve flammable hydrogen gas. |

10. STABILITY AND REACTIVITY

| | |
|----------------------------------|--|
| General Information | No dangerous reactions known. |
| Chemical Stability | Stable under normal conditions. No decomposition if used and stored according to specifications. |
| Conditions to Avoid | Avoid extremes of temperature and direct sunlight. Avoid exposure to moisture. |
| Materials to Avoid | Incompatible/reactive with strong oxidising agents, strong acids and strong bases. |
| Hazardous Decomposition Products | Fire or heat will produce irritating, toxic and/or corrosive gases, including Carbon monoxide, Carbon dioxide, Hydrogen chloride (HCl); Tin oxide fumes. |
| Hazardous Polymerisation | No information available. |

11. TOXICOLOGICAL INFORMATION

| | |
|---------------------|---|
| General Information | <ul style="list-style-type: none">- Acute toxicity: Based on available data, the classification criteria are not met.- Skin corrosion/irritation: Causes severe skin burns.- Eye damage/irritation: Causes serious eye damage.- Respiratory/skin sensitisation: Based on available data, the classification criteria are not met.- Germ cell mutagenicity: Based on available data, the classification criteria are not met.- Carcinogenicity: Based on available data, the classification criteria are not met.- Reproductive toxicity: Based on available data, the classification criteria are not met.- STOT (single exposure): May cause respiratory irritation. Corrosive to the respiratory tract.- STOT (repeated exposure): Based on available data, the classification criteria are not met.- Aspiration toxicity: Based on available data, the classification criteria are not met. |
| Acute | |
| Ingestion | Acute toxicity (Oral): - LD50, Rat: >2,000 mg/kg COMPONENT: Dibutyltin dichloride (CAS No. 683-18-1): - LD50, Rat: 100 mg/kg |
| Inhalation | Acute toxicity (Inhalation): COMPONENT: Dibutyltin dichloride (CAS No. 683-18-1): - LC50, Rat: 0.059 mg/L (4 h) [aerosol]. |
| Carcinogen Category | None |

12. ECOLOGICAL INFORMATION

| | |
|---------------------------|--|
| Ecotoxicity | Aquatic toxicity: - LC50, Fish (Danio rerio): >100 mg/L (96 h) [OECD Guideline 203, semi-static]. - EC50, Crustacea (Daphnia magna): 83 mg/L (48 h) [OECD Guideline 202, static]. - EC50, Algae (Desmodesmus subspicatus): 0.31 mg/L (72 h) [OECD Guideline 201, static]. - NOEC, Algae (Desmodesmus subspicatus): 0.012 mg/L (72 h) [OECD Guideline 201, static]. |
| Persistence/Degradability | Not readily biodegradable (0 %, 28 d) [OECD Guideline 301 F]. |
| Mobility | No information available. |
| Environmental Fate | Very toxic to aquatic life with long lasting effects - Avoid release to the environment. |
| Bioaccumulation Potential | Does not accumulate in organisms. |
| Environmental Impact | No Data Available |

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

Land Transport (Australia)

| | |
|----------------------|---|
| ADG Code | |
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (Monobutyltin trichloride) |
| Class | 8 Corrosive Substances |
| Subsidiary Risk(s) | No Data Available |
| EPG | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| UN Number | 3265 |
| Hazchem | 2X |
| Pack Group | III |
| Special Provision | No Data Available |

Land Transport (Malaysia)

| | |
|----------------------|---|
| ADR Code | |
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (Monobutyltin trichloride) |
| Class | 8 Corrosive Substances |
| Subsidiary Risk(s) | No Data Available |
| EPG | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| UN Number | 3265 |
| Hazchem | 2X |
| Pack Group | III |
| Special Provision | No Data Available |

Land Transport (New Zealand)

NZS5433

| | |
|----------------------|---|
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (Monobutyltin trichloride) |
| Class | 8 Corrosive Substances |
| Subsidiary Risk(s) | No Data Available |
| EPG | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| UN Number | 3265 |
| Hazchem | 2X |
| Pack Group | III |
| Special Provision | No Data Available |

Land Transport (United States of America)

US DOT

| | |
|----------------------|---|
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (Monobutyltin trichloride) |
| Class | 8 Corrosive Substances |
| Subsidiary Risk(s) | No Data Available |
| ERG | 153 Substances - Toxic and/or Corrosive (Combustible) |
| UN Number | 3265 |
| Hazchem | 2X |
| Pack Group | III |
| Special Provision | No Data Available |

Sea Transport

IMDG Code

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

Air Transport

IATA DGR

| | |
|----------------------|---|
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (Monobutyltin trichloride) |
| Class | 8 Corrosive Substances |
| Subsidiary Risk(s) | No Data Available |
| UN Number | 3265 |
| Hazchem | 2X |
| 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)

SAFETY DATA SHEET MONOBUTYLTIN TRICHLORIDE (MBTC) REVISION 4, DATE 10 MAY 19

Dangerous Goods Classification

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

HSR002491
HSR007186 (Revoked)

National/Regional Inventories

Australia (AIC)

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

214-263-6

Europe (REACH)

01-2119484854-24-0003

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

BUTYTR1000, BUTYTR2000, BUTYTR3000, BUTYTR3001, BUTYTR5000

Revision

4

Revision Date

10 May 2019

Key/Legend

< Less Than
 > Greater Than
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 Heath 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