Safety Data Sheet
Linear alkyl benzenesulfonic acids
Revision 5, 22/08/2024

1. IDENTIFICATION

Product Name	**Linear alkyl benzenesulfonic acids**
Other Names	Dodecylbenzenesulfonic acid [CAS#27176-87-0]; LABSA; LAS
Uses	Detergent, emulsifier.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Benzenesulfonic acid, C10-16-alkyl derivatives
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Aurora Cleaning Supplies	F1 / 5 Bungaleen Court Dandenong South VIC 3175	03 9768 2669

Emergency Contact Details

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

Organisation	Location	Telephone
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) Schedule 6

Globally Harmonised System

Hazard Classification			Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories			Corrosive to Metals - Category 1
			Acute Toxicity (Oral) - Category 4
			Skin Corrosion/Irritation - Category 1B
			Serious Eye Damage/Irritation - Category 1
			Acute Hazard To The Aquatic Environment - Category 2
Pictograms			
Signal Word			Danger
Hazard Statements		**H290**	May be corrosive to metals.
		H302	Harmful if swallowed.
		H314	Causes severe skin burns and eye damage.
		H401	Toxic to aquatic life.
Precautionary Statements	Prevention	**P260**	Do not breathe mist/vapour/spray.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P270	Do not eat, drink or smoke when using this product.
		P273	Avoid release to the environment.
	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.
		P390	Absorb spillage to prevent material-damage.
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		P363	Wash contaminated clothing before reuse.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	**P406**	Store in corrosive resistant container with a resistant inner liner.
		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	**6.1D**	Substances that are acutely toxic - Harmful
		8.1A	Substances that are corrosive to metals
		8.2B	Substances that are corrosive to dermal tissue UN PGII
		8.3A	Substances that are corrosive to ocular tissue
	Environmental Hazards	**9.1D**	Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Benzenesulfonic acid, C10-16-alkyl derivatives	Unspecified	68584-22-5	>=96 %
Benzene, C10-13-alkyl derivatives	Unspecified	67774-74-7	<=2 %
Sulphuric acid	H2SO4	7664-93-9	<=2 %
Water	H2O	7732-18-5	<=2 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. If vomiting occurs, rinse mouth and keep head lower than hips to help prevent aspiration. Obtain immediate medical care. 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. Immediately call a Poison Centre or doctor/physician for advice. Obtain immediate medical care.

Skin IF ON SKIN: Remove contaminated clothing and shoes immediately. Flush skin with running water for at least 15 minutes; Wash with plenty of soap and water. For minor skin contact, avoid spreading material on 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. 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. Obtain immediate medical care.

Advice to Doctor Treat symptomatically - Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves.

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. Avoid getting water inside containers.

Flammability Conditions Combustible; May burn but does not ignite readily.

Extinguishing Media Use dry chemical, Carbon dioxide (CO2), alcohol-resistant foam or water spray for extinction - Do not use water jets.

Fire and Explosion Hazard Containers may explode when heated. When heated, vapours may form explosive mixtures with air. Contact with metals may evolve flammable hydrogen gas.

Hazardous Products of Combustion Fire will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Sulphur.

Special Fire Fighting Instructions Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and pollute waterways.

Personal Protective Equipment 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.

Flash Point >150 °C

Lower Explosion Limit No Data Available

Upper Explosion Limit No Data Available

Auto Ignition Temperature No Data Available

Hazchem Code 2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Do not breathe vapours; Prevent contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to suitable container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Large spill: Dike for later disposal.
Decontamination	No information available.
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 unauthorised personnel away. Keep upwind and to higher ground (vapours can accumulate in low areas). Large spill: Consider initial downwind evacuation of areas within at least 250 m; Immediately contact Police or Fire Brigade.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear self-contained breathing apparatus (SCBA) and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Open only under well-ventilated conditions. Loosen closure cautiously before opening. Handle with care and in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours/spray; Prevent contact with eyes, skin and clothing. Wear protective gloves/protective clothing/eye protection/face protection; Wear respiratory protection if there is a risk of exposure to high vapour concentrations or spray mist (see SECTION 8). Keep away from heat and sources of ignition - No smoking. Use explosion-proof electrical/ventilating/lighting equipment. Absorb spillage to prevent material damage (see SECTION 6).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep only in the original container or store in a corrosive resistant container with a resistant inner liner.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For COMPONENT: Sulphuric acid (CAS No. 7664-93-9): - Safe Work Australia Exposure Standard: TWA = 1 mg/m3; STEL = 3 mg/m3. - New Zealand WES: TWA = 1 mg/m3; Confirmed carcinogen (6.7A); Currently under review.
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, particularly in confined spaces. 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 there is a risk of exposure to high vapour concentrations or spray mist. Recommended filter type: E/P (acid gas/particulate). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles or face-shield. - Hand protection: Wear protective gloves. Recommended: Chemical-resistant gloves. - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Chemical-resistant clothing.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove contaminated clothing and shoes immediately and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Viscous liquid
Odour	No information available.
Colour	Amber
pH	<2
Vapour Pressure	0.513 mmHg (@ No Data Available)
Relative Vapour Density	No Data Available
Boiling Point	>50 °C
Melting Point	<-10 °C
Freezing Point	<-10 °C
Solubility	7.098 mg/l
Specific Gravity	1.05 - 1.06
Flash Point	>150 °C
Auto Ignition Temp	No Data Available
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	322 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Kow = 2
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	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	Combustible; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Sulphur.
Release of Invisible Flammable Vapours and Gases	When heated, vapours may form explosive mixtures with air. Contact with metals may evolve flammable hydrogen gas.

10. STABILITY AND REACTIVITY

General Information	May be corrosive to metals.
Chemical Stability	This material is stable under recommended storage and handling conditions.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong alkalis, metals.
Hazardous Decomposition Products	Fire will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Sulphur. Contact with metals may evolve flammable hydrogen gas.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Harmful if swallowed. Causes digestive tract burns. May be harmful in contact with skin.
- Skin corrosion/irritation: Causes severe skin burns; Corrosive to skin.
- Eye damage/irritation: Causes serious eye damage; Corrosive to eyes.
- Respiratory/skin sensitisation: Non-sensitising [GPMT].
- Germ cell mutagenicity: No information available.
- Carcinogenicity: No information available.
- Reproductive toxicity: No information available.
- STOT (single exposure): May cause irritation to the respiratory system.
- STOT (repeated exposure): Not information available.
- Aspiration toxicity: No information available.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: 500 - 2,000 mg/kg

Other

Acute toxicity (Dermal):
- LD50, Rabbit: >2,000 mg/kg

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity:
- LC50, Fish (Oncorhynchus mykiss): 3 mg/l (96 h).
- EC50, Crustacea (Daphnia magna): 2.9 mg/l (48 h).
- EC50, Algae: 170 mg/l (96 h).

Persistence/Degradability	Readily biodegradable.
Mobility	No information available.
Environmental Fate	Toxic to aquatic life - Avoid release to the environment.
Bioaccumulation Potential	Low potential for bioaccumulation.
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	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Canada)
TDG Regulations

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Fiji)

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available

EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Papua New Guinea)

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)
US DOT

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	153 Substances - Toxic and/or Corrosive (Combustible)
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2586
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

Air Transport
IATA DGR

Proper Shipping Name	ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2586
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)

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)	Schedule 6

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002491

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
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)	Listed

16. OTHER INFORMATION

Related Product Codes	DOBENC1000, DOBENC1100, DOBENZ0100, DOBENZ1000, DOBENZ1001, DOBENZ1002, DOBENZ1003, DOBENZ1004, DOBENZ1005, DOBENZ1006, DOBENZ1007, DOBENZ1008, DOBENZ1009, DOBENZ1010, DOBENZ1011, DOBENZ1012, DOBENZ1013, DOBENZ1014, DOBENZ1015, DOBENZ1016, DOBENZ1021, DOBENZ1500, DOBENZ1501, DOBENZ1800, DOBENZ1801, DOBENZ1802, DOBENZ1803, DOBENZ1804,

DOBENZ1805, DOBENZ1806, DOBENZ1807, DOBENZ1808, DOBENZ1809, DOBENZ1810, DOBENZ1811, DOBENZ1812, DOBENZ1813, DOBENZ1814, DOBENZ1815, DOBENZ1816, DOBENZ1817, DOBENZ1818, DOBENZ1819, DOBENZ1820, DOBENZ1821, DOBENZ1900, DOBENZ2010, DOBENZ2012, DOBENZ2017, DOBENZ2100, DOBENZ2101, DOBENZ2102, DOBENZ2103, DOBENZ2105, DOBENZ2108, DOBENZ2110, DOBENZ2500, DOBENZ2501, DOBENZ2600, DOBENZ3000, DOBENZ3010, DOBENZ3020, DOBENZ3030, DOBENZ3031, DOBENZ3040, DOBENZ3300, DOBENZ3400, DOBENZ3500, DOBENZ3600, DOBENZ4000, DOBENZ4100, DOBENZ4101, DOBENZ4110, DOBENZ5000, DOBENZ5100, DOBENZ5200, DOBENZ5201, DOBENZ5300, DOBENZ5310, DOBENZ5500, DOBENZ5600, DOBENZ6001, DOBENZ6002, DOBENZ6200, DOBENZ6300, DOBENZ6500, DOBENZ6600, DOBENZ6700, DOBENZ6800, DOBENZ6801, DOBENZ6802, DOBENZ6803, DOBENZ6804, DOBENZ6811, DOBENZ6900, DOBENZ7000, DOBENZ7001, DOBENZ7002, DOBENZ7003, DOBENZ7005, DOBENZ7010, DOBENZ7011, DOBENZ7100, DOBENZ7200, DOBENZ7700, DOBENZ7800, DOBENZ8000, DOBENZ8001, DOBENZ8002, DOBENZ8003, DOBENZ8004, DOBENZ8005, DOBENZ8006, DOBENZ8007, DOBENZ8008, DOBENZ8009, DOBENZ8010, DOBENZ8011, DOBENZ8012, DOBENZ8013, DOBENZ8014, DOBENZ8015, DOBENZ8016, DOBENZ8017, DOBENZ8018, DOBENZ8019, DOBENZ8020, DOBENZ8021, DOBENZ8022, DOBENZ8023, DOBENZ8024, DOBENZ8025, DOBENZ8026, DOBENZ8027, DOBENZ8200, DOBENZ8210, DOBENZ8211, DOBENZ8500, DOBENZ8700, DOBENZ9000, DOBENZ9100, DOBENZ9101, DOBENZ9500, DOBENZ9600, DOBENZ9700, DOBENZ9701, DOBENZ9702, DOBENZ9703, DOBENZ9704, DOBENZ9705, DOBENZ9706, DOBENZ9707, DOBENZ9708, DOBENZ9709, DOBENZ9710, DOBENZ9711, DOBENZ9712, DOBENZ9800, DOBENZ9801, DOBENZ9802, DOBENZ9900

Revision 5

Revision Date 22/08/2024

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