

Ergotaminine - Dried down standard

Novachem Pty Ltd

Version No: **4.3**Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: **12/09/2018** Print Date: **12/09/2018** S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

D		۸.,	-	lde	nsi	fiar
М	rο	au	CT	ıae	nti	rier

Product name	Ergotaminine - Dried down standard
Chemical Name	ergotaminine
Synonyms	B-MYC3650-5
Proper shipping name	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S. (contains ergotaminine)
Other means of identification	Not Available
CAS number	639-81-6*

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Reference material for laboratory use only

Details of the supplier of the safety data sheet

yyy		
Registered company name	Novachem Pty Ltd	
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia	
Telephone	+61384151255	
Fax	+61386250088	
Website	www.novachem.com.au	
Email	novachem@novachem.com.au	

Emergency telephone number

Association / Organisation	Victorian Poisons Information Centre	
Emergency telephone numbers	13 11 26	
Other emergency telephone numbers	Not Available	

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	S4
Classification ^[1]	Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Inhalation) Category 3, Reproductive Toxicity Category 2, Lactation Effects
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)





SIGNAL WORD DANG

Hazard statement(s)

H301	Toxic if swallowed.	
H311	Toxic in contact with skin.	
H331	Toxic if inhaled.	
H361	Suspected of damaging fertility or the unborn child.	
H362	May cause harm to breast-fed children.	

Chemwatch: 9-489624 Page 2 of 8 Issue Date: 12/09/2018 Version No: 4.3 Print Date: 12/09/2018

Ergotaminine - Dried down standard

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P263	Avoid contact during pregnancy/while nursing.
P270	Do not eat, drink or smoke when using this product.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.	
P308+P313	IF exposed or concerned: Get medical advice/attention.	
P330	Rinse mouth.	
P363	Wash contaminated clothing before reuse.	

Precautionary statement(s) Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary statement(s) Disposal

Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS No	%[weight]	Name
639-81-6	>98	ergotaminine

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ► Flush skin and hair with running water (and soap if available). ► Seek medical attention in event of irritation.
Inhalation	 If furnes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Ergot alkaloids are incompletely absorbed from the gastrointestinal tract and are probably metabolised in the liver. They are mainly excreted in the bile with small amounts appearing in the urine. For acute ergot intoxication:

- the stomach should be emptied by aspiration and lavage.
- amyl nitrate inhalations may be given.
- real nature and vomiting may be controlled by intramuscular injections of 25-50 mg chlorpromazine or a comparable dose of a related phenothiazine.

MARTINDALE: The Extra Pharmacopoeia, 27th Ed.

Peripheral and coronary vasoconstriction due to ergot alkaloids may be antagonised by nitrites or papaverine and short acting barbiturates are indicated. Administration of sodium nitroprusside, anti-coagulants and dextran, with continuous monitoring of blood pressure, proved beneficial in one case of overdose due to misuse of ergotamine. GOSSELIN, SMITH HODGE: Clinical

Caffeine increase the rate and completeness of intestinal absorption of ergot alkaloids, perhaps by increasing the dissolution rate in the alkaline pH of the intestine. ELLENHORN, M.J., and Barceloux D.G.; Medical Toxicology - Diagnosis and Treatment of Human Poisoning. 1988.

SECTION 5 FIREFIGHTING MEASURES

Ergotaminine - Dried down standard

Page 3 of 8

Issue Date: 12/09/2018 Print Date: 12/09/2018

Extinguishing media

- ► Foam.
- Dry chemical powder.
- ► BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
----------------------	--

Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	 Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) nitrogen oxides (NOx) other pyrolysis products typical of burning organic material.
HAZCHEM	2X

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up waste regularly and abnormal spills immediately. Avoid breathing dust and contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. Use dry clean up procedures and avoid generating dust.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Precautions for safe handling	
Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

► Plastic pail.

	► Polyliner drum.
Suitable container	 Packing as recommended by manufacturer.
	For low viscosity materials
	Drums and jerricans must be of the non-removable head type.
	Where a can is to be used as an inner package, the can must have a screwed enclosure.

▶ Glass container is suitable for laboratory quantities

▶ Lined metal can, lined metal pail/ can.

Chemwatch: 9-489624 Page 4 of 8 Issue Date: 12/09/2018
Version No: 4.3 Print Date: 12/09/2018

Ergotaminine - Dried down standard

	For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): Removable head packaging; Cans with friction closures and low pressure tubes and cartridges may be used.
Storage incompatibility	► Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Ergotaminine - Dried down standard	Not Available	Not Available	Not Available	Not Available
Ingredient	Original IDLH		Revised IDLH	
ergotaminine	Not Available		Not Available	

Exposure controls

Appropriate engineering controls

Enclosed local exhaust ventilation is required at points of dust, fume or vapour generation.

HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours.

Barrier protection or laminar flow cabinets should be considered for laboratory scale handling.

A fume hood or vented balance enclosure is recommended for weighing/ transferring quantities exceeding 500 mg.

Personal protection









Eye and face protection

For laboratory, larger scale or bulk handling or where regular exposure in an occupational setting occurs:

- Chemical goggles
- Face shield. Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Skin protection

See Hand protection below

Handalfaat meetaatian

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final

Hands/feet protection

Personal hygiene is a key element of effective hand care.

- ▶ Rubber gloves (nitrile or low-protein, powder-free latex, latex/ nitrile). Employees allergic to latex gloves should use nitrile gloves in preference.
- Double gloving should be considered.
- ▶ PVC gloves.

Body protection

See Other protection below

Other protection

- For quantities up to 500 grams a laboratory coat may be suitable.
- For quantities up to 500 grams a laboratory coat may be suitable.
- For quantities up to 1 kilogram a disposable laboratory coat or coverall of low permeability is recommended. Coveralls should be buttoned at collar and cuffs.
- For quantities over 1 kilogram and manufacturing operations, wear disposable coverall of low permeability and disposable shoe covers.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor Half-Face Respirator **Full-Face Respirator** Powered Air Respirator PAPR-P1 up to 10 x ES Air-line up to 50 x ES P2 PAPR-P2 Air-line* up to 100 x ES Р3 Air-line³ 100+ x ES Air-line** PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.

Chemwatch: 9-489624 Page 5 of 8 Issue Date: 12/09/2018

Version No: 4.3 Print Date: 12/09/2018 Ergotaminine - Dried down standard

- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Not Available		
Physical state	Divided Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	241-243 (decomp)	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	581.65
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
	Coo could.
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. The ergot alkaloids are a group of biogenic amines which act as agonists on alpha-adrenergic receptors. Symptoms of acute poisoning are due to central nervous system stimulation, and include nausea, vomiting, diarrhoea, thirst, coldness of the skin, itchiness, weak pulse, numbness and tingling of the extremeties, fast heart beat, dilated pupils, confusion and unconsciousness.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Еуе	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung. Chronic "ergotism" (resulting from overdose during treatment) produces disturbances in circulation due to constriction of blood vessels and formation of clots. Initial symptoms include coldness of the skin, severe muscle pain, and stagnation of the blood, resulting in dry peripheral gangrene.

Chemwatch: 9-489624 Page 6 of 8 Issue Date: 12/09/2018 Version No: 4.3 Print Date: 12/09/2018

Ergotaminine - Dried down standard

Ergotaminine - Dried down	TOXICITY	IRRITATION		
standard	Not Available	Not Available		
ergotaminine	TOXICITY	IRRITATION		
ergotaminie	Not Available	Not Available		
Legend:	Nalue obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances			
ERGOTAMININE	No significant acute toxicological data identified in literature search.			
Acute Toxicity	~	Carcinogenicity	0	
Skin Irritation/Corrosion	0	Reproductivity	✓	
Serious Eye Damage/Irritation	0	STOT - Single Exposure	0	
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0	
Mutagenicity	0	Aspiration Hazard	0	

Legend:

X - Data available but does not fill the criteria for classification

Data available to make classification

O – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ergotaminine - Dried down standard	ENDPOINT Not Available	TEST DURATION (HR) Not Available	SPECIES Not Available	VALUE Not Available	SOURCE Not Available
ergotaminine	ENDPOINT TEST DURATION (HR) SPECIES VALUE SOURCE Not Available Not Available Not Available Not Available Not Available				

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
	No Data available for all ingredients	No Data available for all ingredients	

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

- ► Containers may still present a chemical hazard/ danger when empty.
- ▶ Return to supplier for reuse/ recycling if possible.

Otherwise:

Fig ontainer can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In

Product / Packaging disposal

some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- ▶ Reduction
- ▶ Reuse
- Recycling
- ► Disposal (if all else fails)

Chemwatch: 9-489624 Page 7 of 8 Issue Date: 12/09/2018 Version No: 4.3

Ergotaminine - Dried down standard

Print Date: 12/09/2018

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- ▶ It may be necessary to collect all wash water for treatment before disposal.
- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.

SECTION 14 TRANSPORT INFORMATION

Labels Required



Land transport (ADG)

UN number	1544
UN proper shipping name	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S. (contains ergotaminine)
Transport hazard class(es)	Class 6.1 Subrisk Not Applicable
Packing group	
Environmental hazard	Not Applicable
Special precautions for user	Special provisions 43 223 274 Limited quantity 5 kg

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee)

UN number	1544
UN proper shipping name	ALKALOIDS, SOLID, N.O.S. or ALKALOIDS SALTS, SOLID, N.O.S. (contains ergotaminine)
Transport hazard class(es)	IMDG Class 6.1 IMDG Subrisk Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	EMS Number F-A , S-A Special provisions 43 223 274 Limited Quantities 5 kg

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

ERGOTAMININE(639-81-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule

National Inventory Status

National Inventory	Status
Australia - AICS	N (ergotaminine)
Canada - DSL	N (ergotaminine)
Canada - NDSL	N (ergotaminine)
China - IECSC	N (ergotaminine)
Europe - EINEC / ELINCS / NLP	N (ergotaminine)
Japan - ENCS	N (ergotaminine)
Korea - KECI	N (ergotaminine)
New Zealand - NZIoC	N (ergotaminine)
Philippines - PICCS	N (ergotaminine)

Chemwatch: 9-489624 Page 8 of 8 Issue Date: 12/09/2018 Version No: 4.3 Print Date: 12/09/2018

Ergotaminine - Dried down standard

USA - TSCA	N (ergotaminine)
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	12/09/2018
Initial Date	23/11/2017

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

 ${\sf PC-TWA: Permissible \ Concentration-Time \ Weighted \ Average}$

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

Powered by AuthorITe, from Chemwatch.