SAFETY DATA SHEET

Methyl PROXITOL

Version 4.1 Revision Date 2023.11.24 Print Date 2023.12.01

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Methyl PROXITOL
Product code	:	U5141
CAS-No.	:	107-98-2
Other means of identification	:	1-methoxy-2-propanol, PGME, PM, Propylene glycol monomethyl ether

Manufacturer or supplier's details

Supplier	:	SHELL EASTERN CHEMICALS (S) A REGISTERED BUSINESS OF SHELL EASTERN TRADING (PTE) LTD (UEN:198902087C) 9 North Buona Vista Drive , #07-01 The Metropolis Tower 1 Singapore 138588 Singapore
Telephone	:	+65 6384 8269
Telefax	:	+65 6384 8454
Contact for Safety Data Sheet	:	
Emergency telephone number	:	+ (65) 6542 9595 (Alert-SGS)

Recommended use of the chemical and restrictions on use

Recommended use	:	Solvent.
Restrictions on use	:	This product must not be used in applications other than the above without first seeking the advice of the supplier.
Other information	:	PROXITOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Shell plc.

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 5
Specific target organ toxicity - single exposure	:	Category 3 (Narcotic effects)

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
H226 Flammable liquid and vapour.
HEALTH HAZARDS:
H303 May be harmful if swallowed.
H336 May cause drowsiness or dizziness.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :

Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use appropriate media to extinguish.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P235 Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	Synonyms	CAS-No.	Classification	Concentration (% w/w)
1-Methoxypropane-2-ol	1-methoxypropan-2-ol	107-98-2	Flam. Liq.3; H226 Acute Tox.5; H303 STOT SE3; H336	>= 99.6
2-methoxypropanol	2-methoxypropanol	1589-47-5	Flam. Liq.3; H226 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H335 Repr.1B; H360	< 0.1

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

First aid measures for different exposure routes

If inhaled : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
If persistent irritation occurs, obtain medical attention.

If swallowed : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth.

Most important symptoms and effects, both acute and delayed : Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
Ingestion may result in nausea, vomiting and/or diarrhoea.
Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Notes to physician : Call a doctor or poison control center for guidance.
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : None

Specific hazards during firefighting : The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Carbon monoxide may be evolved if incomplete combustion occurs.

Specific extinguishing methods : Standard procedure for chemical fires.
Clear fire area of all non-emergency personnel.
Keep adjacent containers cool by spraying with water.

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Observe the relevant local and international regulations
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
Local authorities should be advised if significant spillages cannot be contained.
The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Vapour may form an explosive mixture with air.

	:	Avoid contact with skin, eyes and clothing. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas.
Environmental precautions	:	Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly. Monitor area with combustible gas indicator.
Methods and materials for containment and cleaning up	:	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Additional advice	:	For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

7. HANDLING AND STORAGE

Handling

General Precautions	:	Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.
Advice on safe handling	:	Avoid contact with skin, eyes and clothing. Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.
Bulk storage tanks should be diked (bunded).
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.
The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Do NOT use compressed air for filling, discharging, or handling operations.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Refer to guidance under Handling section.

Storage

Conditions for safe storage : The vapour is heavier than air. Beware of accumulation in pits and confined spaces.
Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material : Suitable material: For containers, or container linings use mild steel, stainless steel.
Unsuitable material: Natural, butyl, neoprene or nitrile rubbers.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Specific use(s) : Not applicable

Ensure that all local regulations regarding handling and storage facilities are followed.
See additional references that provide safe handling practices: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

1-Methoxypropane-2-ol	107-98-2	TWA	100 ppm 369 mg/m3	TW OEL
1-Methoxypropane-2-ol		STEL	125 ppm 461.25 mg/m3	TW OEL
1-Methoxypropane-2-ol	107-98-2	TWA	50 ppm	ACGIH
1-Methoxypropane-2-ol		STEL	100 ppm	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.
Appropriate measures include:
Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.
Eye washes and showers for emergency use.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this

product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Protective measures

Hygiene measures:
Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
See also the following information:

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].

Hand protection
Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: butyl-rubber Nitrile rubber gloves.

Incidental contact/Splash protection: Nitrile rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material,

dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection : Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid.
Colour	:	clear
Odour	:	Ethereal
Odour Threshold	:	Data not available
pH	:	Data not available
Melting / freezing point	:	-96 °C / -141 °F
Boiling point/boiling range	:	117 - 125 °C / 243 - 257 °F
Flash point	:	30 °C / 86 °F Method: ASTM D93 (PMCC)
Evaporation rate	:	0.75 Method: ASTM D 3539, nBuAc=1
Flammability (solid, gas)	:	Data not available

Upper explosion limit	:	13.1 %(V)
Lower explosion limit	:	1.9 %(V)
Vapour pressure	:	1.170 Pa (20 °C / 68 °F)
Relative vapour density	:	3.1
Relative density	:	0.92 (20 °C / 68 °F) Method: ASTM D4052
Density	:	920 - 923 kg/m3 (20 °C / 68 °F) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	completely soluble (20 °C / 68 °F)
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: 0.37
Auto-ignition temperature	:	290 °C / 554 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	Data not available
Explosive properties	:	Not applicable
Oxidizing properties	:	Data not available
Surface tension	:	70.7 mN/m, 20 °C / 68 °F
Conductivity	:	Electrical conductivity: > 10,000 pS/m A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.
Particle size	:	Data not available
Molecular weight	:	90.12 g/mol

10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	No hazardous reaction is expected when handled and stored according to provisions
Possibility of hazardous reactions	:	Reacts with strong oxidising agents.
Conditions to avoid	:	Avoid heat, sparks, open flames and other ignition sources. Prevent vapour accumulation. In certain circumstances product can ignite due to static electricity.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products	:	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

Basis for assessment	:	Information given is based on product testing. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Exposure routes	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Symptoms of Overexposure	:	Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Ingestion may result in nausea, vomiting and/or diarrhoea. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Acute toxicity

Components:

1-Methoxypropane-2-ol:

Acute oral toxicity	:	LD50 : > 2000 - <= 5000 mg/kg

Remarks: May be harmful if swallowed.

Acute inhalation toxicity : Remarks: Low toxicity by inhalation.

Acute dermal toxicity : LD50 : > 5000 mg/kg
Remarks: Low toxicity

Skin corrosion/irritation

Components:

1-Methoxypropane-2-ol:
Remarks: Not irritating to skin., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Serious eye damage/eye irritation

Components:

1-Methoxypropane-2-ol:
Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Components:

1-Methoxypropane-2-ol:
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Chronic toxicity

Germ cell mutagenicity

Components:

1-Methoxypropane-2-ol:

: Remarks: No evidence of mutagenic activity.

Carcinogenicity

Components:

1-Methoxypropane-2-ol:

Remarks: Not carcinogenic in animal studies.

Material	GHS/CLP Carcinogenicity Classification
1-Methoxypropane-2-ol	No carcinogenicity classification.
2-methoxypropanol	No carcinogenicity classification.

Reproductive toxicity

Components:

1-Methoxypropane-2-ol:

:

Remarks: Does not impair fertility., Causes foetotoxicity in animals at doses which are maternally toxic., Causes adverse effects on the foetus based on animal studies.

STOT - single exposure

Components:

1-Methoxypropane-2-ol:
Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness.

STOT - repeated exposure

Components:

1-Methoxypropane-2-ol:
Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans, Based on available data, the classification criteria are not met.

Aspiration toxicity

Components:
1-Methoxypropane-2-ol:
Not an aspiration hazard.

Further information

Components:
1-Methoxypropane-2-ol:
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data are based on product testing. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Ecotoxicity

Components:
1-Methoxypropane-2-ol :

Toxicity to fish (Acute toxicity) : Remarks: Practically non toxic:
LC/EC/IC50 > 1000 mg/l

Toxicity to crustacean (Acute : Remarks: Practically non toxic:

toxicity) LC/EC/IC50 > 1000 mg/l

Toxicity to algae/aquatic plants (Acute toxicity) : Remarks: Practically non toxic: LC/EC/IC50 > 1000 mg/l

Toxicity to microorganisms (Acute toxicity) : Remarks: Data not available

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean(Chronic toxicity) : Remarks: Data not available

Persistence and degradability

Components:
1-Methoxypropane-2-ol :

Biodegradability : Remarks: Readily biodegradable meeting the 10 day window criterion.
Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water : log Pow: 0.37

Components:
1-Methoxypropane-2-ol :

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Mobility in soil

Components:
1-Methoxypropane-2-ol :

Mobility : Remarks: Dissolves in water., If product enters soil, it will be highly mobile and may contaminate groundwater.

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses.
Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard.
Do not, puncture, cut, or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

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14. TRANSPORT INFORMATION

International Regulations

ADR

UN number	:	3092
Proper shipping name	:	1-METHOXY-2-PROPANOL
Class	:	3
Packing group	:	III
Labels	:	3
Hazard Identification Number	:	30
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 3092
Proper shipping name	:	1-METHOXY-2-PROPANOL
Class	:	3
Packing group	:	III
Labels	:	3

IMDG-Code

UN number	:	UN 3092
Proper shipping name	:	1-METHOXY-2-PROPANOL
Class	:	3
Packing group	:	III
Labels	:	3
Marine pollutant	:	no

Maritime transport in bulk according to IMO instruments

Pollution category	:	Z
Ship type	:	3
Product name	:	Propylene glycol monoalkyl ether

Special precautions for user

Remarks	:	Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
Additional Information	**:**	This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry. Transport in bulk according to Annex II of Marpol and the IBC Code

15. REGULATORY INFORMATION

National regulatory information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Occupational Safety and Health Act
Rules on hazard communication of dangerous and harmful materials.
Rules on public hazardous products and flammable pressurized gases installation and safety management.
Rules on road transport safety.
Toxic and Concerned Chemical Substances Control Act
Rules on organic solvent poison prevention.
Rules on pressurized gas labour safety.
Standards of Permissible Exposure Limits in Workplace
Standard on harm prevention of specific chemical substance.
Standards for the Storage, Cleanup, Handling and Disposal of Industrial Waste

Other international regulations

The components of this product are reported in the following inventories:

AIIC	:	Listed
DSL	:	Listed
IECSC	:	Listed
ENCS	:	Listed
KECI	:	Listed
NZIoC	:	Listed
PICCS	:	Listed
TSCA	:	Listed
TCSI	:	Listed

16. OTHER INFORMATION

Full text of H-Statements

H226	Flammable liquid and vapour.
H303	May be harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.

Full text of other abbreviations

Acute Tox.	Acute toxicity
Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure

Abbreviations and Acronyms

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

Training advice : Provide adequate information, instruction and training for operators.

Sources of key data used to : The quoted data are from, but not limited to, one or more

compile the Safety Data Sheet		sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Revision Date	:	2023.11.24
Organization that prepared the SDS	:	SHELL EASTERN CHEMICALS (S), A REGISTERED BUSINESS OF SHELL EASTERN, TRADING (PTE) LTD (UEN:198902087C)
Address	:	The Metropolis Tower 1, 9 North Buona Vista Drive , #07-01, Singapore 138588 +65 6384 8737
Person who prepared the SDS (Title)	:	Varian Han (Product Steward)
Signature	:	
Other information	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.

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