CARADOL SC56-15S

Version 1.4 Revision Date 20.08.2024 Print Date 27.08.2024

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CARADOL SC56-15S

Product code : U312K

Synonyms : Polyol CAS-No. : 25791-96-2

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 : + (65) 6542 9595 (ALERT-SGS)

number

Recommended use of the chemical and restrictions on use

Recommended use

Use for the manufacture of polyurethane products., To be evaluated on a case by case basis depending on specific

customer application.

Restrictions on use : This product must not be used in applications other than those

listed in Section 1 without first seeking the advice of the

supplier.

This product must not be used in applications other than the

above without first seeking the advice of the supplier.

Other information : CARADOL 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

Based on available data this substance / mixture does not meet the classification criteria.

GHS label elements

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Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

PHYSICAL HAZARDS: Hazard statements

Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:

Not classified as a health hazard under GHS criteria.

ENVIRONMENTAL HAZARDS:

Not classified as an environmental hazard under GHS criteria.

Precautionary statements

Prevention:

No precautionary phrases.

Response:

No precautionary phrases.

Storage:

No precautionary phrases.

Disposal:

No precautionary phrases.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

3.1 Substances

Components

Chemical name	CAS-No.	Classification	Concentration (%
			w/w)
Propoxylated glycerol	25791-96-2		<= 100

Further information

Contains:

Chemical name	Identification number	Concentration (% w/w)
Benzenamine, N-	68411-46-1	0.1 - 0.2

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phenyl-, reaction products with 2,4,4-trimethylpentene		

4. FIRST-AID MEASURES

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

conditions.

If inhaled : No treatment necessary under normal conditions of use.

If symptoms persist, obtain medical advice.

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 : In general no treatment is necessary unless large quantities

are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and

delayed

: Not considered to be an inhalation hazard under normal

conditions of use.

Possible respiratory irritation signs and symptoms may include

a temporary burning sensation of the nose and throat,

coughing, and/or difficulty breathing.

No specific hazards under normal use conditions.

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.

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. Following cases of gross overexposure, investigation of liver, kidney and eye function may be advisable. Records of such incidents should be maintained

for future reference.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Large fires should only be fought by properly trained fire

fighters.

Alcohol-resistant foam, water spray or fog. Dry chemical

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powder, carbon dioxide, sand or earth may be used for small

fires only.

Unsuitable extinguishing

media

: Do not use water in a jet.

Specific hazards during

firefighting

: Will only burn if enveloped in a pre-existing fire. Hazardous combustion products may include:

Carbon dioxide

Unidentified organic and inorganic compounds.

Toxic gases Carbon monoxide.

Specific extinguishing

methods

: Standard procedure for chemical fires.

Clear fire area of all non-emergency personnel.

All storage areas should be provided with adequate fire

fighting facilities.

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 all relevant local and international regulations.

: Avoid contact with skin, eyes and clothing.

Avoid inhaling vapour and/or mists.

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

Environmental precautions

: Remove all possible sources of ignition in the surrounding

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental

contamination.

Ventilate contaminated area thoroughly.

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

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	contaminated soil and dispose of s Proper disposal should be evaluate status of this material (refer to Secton contamination from subsequent us	appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area.	
Additional advice	 For guidance on selection of perso see Section 8 of this Safety Data S For guidance on disposal of spilled this Safety Data Sheet. 	Sheet.	

7. HANDLING AND STORAGE

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 : In accordance with good industrial hygiene practices,

precautions should be taken to avoid breathing of material.

Use local exhaust extraction over processing area.

Avoid unintentional contact with isocyanates to prevent

uncontrolled polymerisation.

Avoid contact with skin, eyes and clothing.

Air-dry contaminated clothing in a well-ventilated area before

laundering.

Do not empty into drains. Handling Temperature:

Ambient.

When handling product in drums, safety footwear should be

worn and proper handling equipment should be used.

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

Avoidance of contact : Avoid contact with isocyanates, copper and copper alloys,

zinc, strong oxidizing agents, and water.

Product Transfer : Lines should be purged with nitrogen before and after product

transfer. Keep containers closed when not in use.

Storage

Conditions for safe storage : Refer to section 15 for any additional specific legislation

covering the packaging and storage of this product.

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Prevent all contact with water and with moist atmosphere. Other data

Tanks must be clean, dry and rust-free.

Prevent ingress of water.

Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Nitrogen blanket recommended for large tanks (capacity 100

m3 or higher).

Drums should be stacked to a maximum of 3 high.

Storage Temperature:

Ambient.

Storage should be handled at temperatures such that viscosities are less than 500 cSt; typically at 25-50 °C. Tanks should be fitted with heating coils in areas where the ambient temperatures are below the recommended product handling temperatures. Heating coil skin temperatures should

not exceed 100 °C.

: Suitable material: Stainless steel., For container paints, use Packaging material

epoxy paint, zinc silicate paint.

Unsuitable material: Copper., Copper alloys.

Specific use(s) : Not applicable

Ensure that all local regulations regarding handling and

storage facilities are followed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

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/

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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

: Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. Adequate ventilation to control airborne concentrations. 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:

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

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection : No respiratory protection is ordinarily required under normal

conditions of use.

In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.

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: Nitrile rubber. Incidental contact/Splash protection: PVC, neoprene or 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

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> 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 nonperfumed moisturizer is recommended.

If material is handled such that it could be splashed into eyes, Eye protection

protective eyewear is recommended.

Skin and body protection : Skin protection is not ordinarily required beyond standard

work clothes.

It is good practice to wear chemical resistant gloves.

Hygiene measures : Wash hands before eating, drinking, smoking and using the

toilet.

Launder contaminated clothing before re-use.

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 colourless

Odour : odourless Odour Threshold : Not relevant Ha : Not applicable : < 20 °C / < 68 °F Melting point/freezing point

 $: > 300 \, ^{\circ}\text{C} / > 572 \, ^{\circ}\text{F}$ Boiling point/boiling range

Flash point : Typical 200 °C / 392 °F

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Method: ASTM D93 (PMCC)

Evaporation rate : Data not available

Flammability (solid, gas) : Not classified as flammable but will burn.

Upper explosion limit : Data not available

Lower explosion limit : Data not available

Vapour pressure : < 10 hPa (50 °C / 122 °F)

Relative vapour density : Data not available

Relative density : 1.02Data not available

Density : Typical 1,015 kg/m3 (20 °C / 68 °F)

Method: ASTM D4052

Solubility(ies)

Water solubility : Data not available Solubility in other solvents : Data not available

Partition coefficient: n-

octanol/water

: log Pow: 1.1 - 4.8 Data not available

Auto-ignition temperature : ca. 305 °C / 581 °F

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Typical 600 mPa.s (20 °C / 68 °F)

Method: ASTM D445

Viscosity, kinematic : Data not available

Particle characteristics

Particle size : Data not available

Explosive properties : Not applicable

Oxidizing properties : Data not available

Surface tension : Data not available

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.

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Molecular weight 3,000 g/mol

10. STABILITY AND REACTIVITY

: The product does not pose any further reactivity hazards in Reactivity

addition to those listed in the following sub-paragraph.

Chemical stability : No hazardous reaction is expected when handled and stored

according to provisions Hygroscopic.

Possibility of hazardous

reactions

: Polymerises exothermically with di-isocyanates at ambient

temperatures.

The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of reaction partners is good or is supported by stirring or by the presence

of solvents.

Reacts with strong oxidising agents.

Conditions to avoid : Heat, flames, and sparks.

Product cannot ignite due to static electricity.

Incompatible materials : Avoid contact with isocyanates, copper and copper alloys,

zinc, strong oxidizing agents, and water.

Hazardous decomposition

products

: Unknown toxic products may be formed.

11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on data obtained from similar

substances.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for

individual component(s).

exposure

Information on likely routes of : Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD 50 : > 2,000 mg/kg

Remarks: Based on available data, the classification criteria

are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD 50 : > 2,000 mg/kg

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Remarks: Low toxicity

Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Acute oral toxicity : LD 50 Rat, male and female: > 2,000 mg/kg

Method: OECD Test Guideline 401

Remarks: Based on available data, the classification criteria

are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD 50 Rat, male and female: > 2,000 mg/kg

Method: OECD Test Guideline 402

Remarks: Based on available data, the classification criteria

are not met.

Skin corrosion/irritation

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Species: Rabbit

Method: OECD Test Guideline 404

Remarks: Slightly irritating to skin., Insufficient to classify., Based on available data, the

classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Species: Rabbit

Method: OECD Test Guideline 405

Remarks: Slightly irritating., Insufficient to classify., Based on available data, the classification

criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

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Propoxylated glycerol: Species: Guinea pig

Method: OECD Test Guideline 406

Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Based on available data, the classification criteria

are not met.

Components:

Propoxylated glycerol:

Genotoxicity in vitro : Method: OECD Test Guideline 471

Remarks: Based on available data, the classification criteria

are not met.

: Method: OECD Test Guideline 473

Remarks: Based on available data, the classification criteria

are not met.

: Method: OECD Test Guideline 476

Remarks: Based on available data, the classification criteria

are not met.

: Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity-

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity -

: This product does not meet the criteria for classification in

Assessment categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Propoxylated glycerol	No carcinogenicity classification.
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	No carcinogenicity classification.

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Reproductive toxicity

Product:

Remarks: Based on available data, the classification criteria

are not met.

Components:

Propoxylated glycerol:

: Species: Rat

Sex: male and female Application Route: Oral

Method: OECD Test Guideline 421

Remarks: Based on available data, the classification criteria

are not met.

Reproductive toxicity -

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

Propoxylated glycerol:

Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

Propoxylated glycerol:

Rat, male and female: Application Route: Oral

Method: OECD Test Guideline 407

Target Organs: No specific target organs noted

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Aspiration toxicity

Product:

Not an aspiration hazard.

Components:

Propoxylated glycerol:

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Components:

Propoxylated glycerol:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product.

The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for

individual component(s).

Ecotoxicity

Product:

Toxicity to fish (Acute

toxicity)

: LC50 : > 100 mg/l

Remarks: Based on available data, the classification criteria

are not met.

Practically non toxic:

Toxicity to crustacean (Acute

toxicity)

: EC50 : > 100 mg/l

Remarks: Based on available data, the classification criteria

are not met.

Practically non toxic:

Toxicity to algae/aquatic plants (Acute toxicity)

: EC50 : > 100 mg/l

Remarks: Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic

toxicity)

: Remarks: Data not available

Toxicity to crustacean

(Chronic toxicity)

: Remarks: Data not available

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Toxicity to microorganisms

(Acute toxicity)

IC50 : > 100 mg/l

Remarks: Based on available data, the classification criteria

are not met.

Practically non toxic:

Components:

Propoxylated glycerol:

Toxicity to fish (Acute

toxicity)

: LC50 (Leuciscus idus (Golden orfe)): > 1,000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203 Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Based on available data, the classification criteria are not met.

Toxicity to crustacean (Acute

toxicity)

: EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Based on available data, the classification criteria are not met.

Toxicity to algae/aquatic plants (Acute toxicity)

: EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201 Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Based on available data, the classification criteria are not met.

Toxicity to microorganisms

(Acute toxicity)

: EC10 (Activated sludge, domestic waste): > 10,000 mg/l

Exposure time: 3 h

Method: Test(s) equivalent or similar to OECD Guideline 209

Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic

toxicity)
Toxicity to

: Remarks: Data not available

: NOEC: >= 10 mg/l Exposure time: 21 d

crustacean(Chronic toxicity)

Species: Daphnia magna (Water flea)

Method: Information given is based on data obtained from

similar substances.

Remarks: NOEC/NOEL > 10 - <=100 mg/l

Persistence and degradability

Product:

Biodegradability : Remarks: Readily biodegradable.

Components:

Propoxylated glycerol:

Biodegradability : Biodegradation: 99 %

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Exposure time: 28 d

Method: OECD Test Guideline 302B Remarks: Inherently biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Partition coefficient: n-

octanol/water Components:

: log Pow: 1.1 - 4.8Remarks: Data not available

Propoxylated glycerol :

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Mobility in soil

Product:

Mobility : Remarks: If the product enters soil, one or more constituents

will or may be mobile and may contaminate groundwater.

Components:

Propoxylated glycerol:

Mobility : Remarks: If product enters soil, it will be highly mobile and

may contaminate groundwater., Dissolves in water.

Other adverse effects

Components:

Propoxylated glycerol:

Results of PBT and vPvB

assessment

: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not

considered to be PBT or vPvB.

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

water.

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.

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Contaminated packaging : Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire.

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.

14. TRANSPORT INFORMATION

International Regulations

ADR

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Maritime transport in bulk according to IMO instruments

Pollution category : Z Ship type : 3

Product name : Glycerol Propoxylated

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 enriched atmospheres displaces available oxygen which 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

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

Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

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

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Government regulation of the Republic of Indonesia No. 74 year 2001, concerning the management of hazardous and toxic materials, the President of the Republic of Indonesia. Minister of Manpower Decree of the Republic of Indonesia No. 187 Year 1999 concerning managing of hazardous chemicals.

Republic of Indonesia Minister of Industry Regulation, Number 87/M-IND/PER-9/2009, concerning global harmonization system and labels on chemicals.

Other international regulations

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

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

16. OTHER INFORMATION

Abbreviations and Acronyms

AllC - 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

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Version 1.4 Revision Date 20.08.2024 Print Date 27.08.2024

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.

Other information : A vertical bar (|) in the left margin indicates an amendment

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

: The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

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