NEODOL 45

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1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : NEODOL 45

Product code : V2456

CAS-No. : 75782-87-5

ENCS/ISHL number : 2-217 (CAS: 68333-80-2, 75782-87-5)

Manufacturer or supplier's details

Supplier's company name, :

address and phone number SHELL EASTERN CHEMICALS (S)

A REGISTERED BUSINESS OF SHELL EASTERN

TRADING (PTE) LTD (UEN:198902087C) 9 North Buona Vista Drive, #07-01

9 North Buona Vista Drive , #0/

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 in detergent manufacture.

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 : NEODOL is a trademark owned by Shell Trademark

Management B.V. and Shell Brands Inc. and used by affiliates

of Royal Dutch Shell plc.

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Short-term (acute) aquatic

: Category 1

hazard

Long-term (chronic) aquatic

: Category 1

hazard

GHS label elements

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Hazard pictograms

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:

Not classified as a health hazard under GHS criteria.

ENVIRONMENTAL HAZARDS: H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Substance name	CAS-No.	Classification	Concentration (% w/w)
C14-15 Alcohols	75782-87-5	Aquatic Acute1; H400 Aquatic Chronic1; H410 Aquatic Chronic1; H410	<= 100

For explanation of abbreviations see section 16.

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. FIRST-AID MEASURES			
General advice	:	Not expected to be a health hazard conditions.	d when used under normal
If inhaled	:	No treatment necessary under nor symptoms persist, obtain medical a	
In case of skin contact	:	Remove contaminated clothing. Fluwater and follow by washing with s If persistent irritation occurs, obtain	oap if available.
In case of eye contact	:	Flush eye with copious quantities of Remove contact lenses, if present rinsing. If persistent irritation occurs, obtain	and easy to do. Continue
If swallowed	:	In general no treatment is necessa are swallowed, however, get medic	, .
Most important symptoms and effects, both acute and delayed	:	Not considered to be an inhalation conditions of use. Possible respiratory irritation signs a temporary burning sensation of the coughing, and/or difficulty breathing.	and symptoms may include he nose and throat,
		Defatting dermatitis signs and sym burning sensation and/or a dried/cr	
		No specific hazards under normal to Eye irritation signs and symptoms sensation, redness, swelling, and/o	may include a burning
		No specific hazards under normal Ingestion may result in nausea, voi	
Protection of first-aiders	:	When administering first aid, ensur appropriate personal protective equincident, injury and surroundings.	
Notes to physician	:	Call a doctor or poison control cent Treat symptomatically.	ter for guidance.

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

: Do not use water in a jet.

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Specific hazards during firefighting

Carbon monoxide may be evolved if incomplete combustion

occurs.

Will float and can be reignited on surface water.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

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 all 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.

: Avoid contact with spilled or released material. Immediately remove all contaminated clothing. 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. Stay upwind and keep out of low areas. Be ready for fire or possible exposure.

Environmental precautions

: 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 appropriate absorbent material and dispose of safely. Remove

contaminated soil and dispose of safely.

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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

Technical measures : 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.

Do not empty into drains.

Sudden Release of Pressure Hazard

Facial protective equipment : If material is handled such that it could be splashed into eyes,

protective eyewear is recommended.

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

tollet.

Launder contaminated clothing before re-use.

Describe contact avoidance,

etc

: Copper.

Copper alloys.

Strong oxidising agents.

Aluminum

Product Transfer : Keep containers closed when not in use. Do not use

compressed air for filling discharge or handling.

Storage

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

covering the packaging and storage of this product.

Other data : Bulk storage tanks should be diked (bunded).

Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a

suitable vapour treatment system.

Nitrogen blanket recommended for large tanks (capacity 100

m3 or higher).

Insulation (lagging) will minimize heat loss in areas of low

ambient temperature.

Tanks should be fitted with heating coils in areas where ambient conditions can result in handling temperatures below

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	the freezing point/pour point of th	the freezing point/pour point of the product.	
Packaging material	: Suitable material: Stainless steel. Unsuitable material: Aluminum, C		
Container Advice	 Containers, even those that have explosive vapours. Do not cut, dri similar operations on or near conf 	II, grind, weld or perform	
Specific use(s)	: Not applicable		
	Ensure that all local regulations restorage facilities are followed.	egarding handling and	

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

Contains no substances with occupational exposure limit values.

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

労働者の健康障害を防止するため化学物質の濃度基準値とその適用方法などを定めました (mhlw.go.jp)

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:

Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is

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greater potential for airborne concentrations to be generated. Eye washes and showers for emergency use.

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

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

: 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 the combination of organic gases and vapours and particles [Type A/Type P 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: Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we

recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable

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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.

If material is handled such that it could be splashed into eyes, Eye and face 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.

Thermal hazards : Not applicable

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

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

Physical state : Waxy solid at 20 °C.

Colour : white Odour mild

Odour Threshold Data not available

рΗ : Not applicable

Melting / freezing point : 29 - 36 °C / 84 - 97 °F

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Boiling point, initial boiling point and boiling range

: 289 °C / 552 °F (1013.0 hPa)

: 157 °C / 315 °F

Method: ASTM D93 (PMCC)

Evaporation rate : Data not available

Flammability

Flash point

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

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit : Data not available Lower explosion limit : Data not available

Vapour pressure : < 0.05 hPa (25 °C / 77 °F)

Relative vapour density : 7.5

Density and / or relative density

Relative density : $0.824 (38 \, ^{\circ}\text{C} / 100 \, ^{\circ}\text{F})$

Method: ASTM D4052

Density : 823 kg/m3 (40 °C / 104 °F)

Method: ASTM D4052

Solubility(ies)

Water solubility : ca. 0.2 mg/l negligible (25 °C / 77 °F)

Partition coefficient: n-

octanol/water

: log Pow: 6 - 6.2

Auto-ignition point : Data not available

Decomposition temperature : Data not available

Viscosity

Viscosity (Dynamic) : 14 mPa.s (40 °C / 104 °F)

Method: ASTM D445

Viscosity (Dynamic) 50 mPa.s (35 °C / 95 °F)

Method: ASTM D445

Viscosity, kinematic : 18 mm2/s (40 °C / 104 °F)

Method: ASTM D445

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Particle characteristics

Particle size : Data not available

Explosive properties : Not applicable Oxidizing properties : Data not available

Surface tension : Data not available

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.

Molecular weight : 218 - 224 g/mol

10. STABILITY AND REACTIVITY

Reactivity : Stable at normal ambient temperature and pressure., May

oxidise in the presence of air.

The product is chemically stable. Stable under normal Chemical stability

conditions.

Possibility of hazardous

reactions

: None known.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Copper.

Copper alloys.

Strong oxidising agents.

Aluminum

Hazardous decomposition

products

: None expected under normal use conditions.

11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar

products, and/or components.

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

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Components:

C14-15 Alcohols:

Acute oral toxicity : LD50 : > 5000 mg/kg

Remarks: Low toxicity

Acute inhalation toxicity : Remarks: Low toxicity if inhaled.

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

Acute dermal toxicity : LD50 : > 5000 mg/kg

Remarks: Low toxicity

Skin corrosion/irritation

Components:

C14-15 Alcohols:

Remarks: Not irritating to skin.

Serious eye damage/eye irritation

Components:

C14-15 Alcohols:

Remarks: Not irritating to eye.

Respiratory or skin sensitisation

Components:

C14-15 Alcohols:

Remarks: Not a sensitiser.

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

Germ cell mutagenicity

Components:

C14-15 Alcohols:

: Remarks: Non mutagenic

Carcinogenicity

Components:

C14-15 Alcohols:

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

Material	GHS/CLP Carcinogenicity Classification
C14-15 Alcohols	No carcinogenicity classification.

Reproductive toxicity

Components:

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C14-15 Alcohols:

Remarks: Data not available

STOT - single exposure

Components:

C14-15 Alcohols:

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

STOT - repeated exposure

Components:

C14-15 Alcohols:

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

Aspiration toxicity

Components:

C14-15 Alcohols:

Not an aspiration hazard.

Further information

Components:

C14-15 Alcohols:

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

Components:

C14-15 Alcohols:

Toxicity to fish (Acute : Remarks: No toxicity at the limit of solubility

toxicity)

Toxicity to crustacean (Acute : Remarks: No toxicity at the limit of solubility

toxicity)

Toxicity to algae/aquatic plants (Acute toxicity)

Toxicity to microorganisms : Remarks: Data not available

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: Remarks: LC/EC/IC50 < 1 mg/l

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(Acute toxicity)

Toxicity to fish (Chronic : Remarks: Data not available

toxicity)

Toxicity to : Remarks: Data not available

crustacean(Chronic toxicity)

Persistence and degradability

Components: C14-15 Alcohols:

Biodegradability : Remarks: Readily biodegradable.

Bioaccumulation

Product:

Partition coefficient: n-

octanol/water **Components:** C14-15 Alcohols: : log Pow: 6 - 6.2

: Remarks: Has the potential to bioaccumulate. Bioaccumulation

Log Kow > =4

Mobility in soil

Components: C14-15 Alcohols:

Mobility : Remarks: Floats on water., Adsorbs to soil and has low

mobility

Other adverse effects

no data available

Hazardous to the ozone layer

Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal methods

Chemicals (residual waste) : 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 containers and

Drain container thoroughly.

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

> Residues may cause an explosion hazard. Do not puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.

14. TRANSPORT INFORMATION

Regulatory information when there are domestic regulations

: 9

Refer to section 15 for specific national regulation.

International Regulations

ADR

UN number : 3082

Product Name (Proper : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

shipping name) N.O.S.

(C12-C15 ALCOHOL)

Class (Hazard class in

transportation)

: 111 Packing group Labels • 9 Hazard Identification Number : 90 Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082

Product Name (Proper : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

shipping name) N.O.S.

(C12-C15 ALCOHOL)

Class (Hazard class in

transportation)

Packing group : 111 Labels : 9

IMDG-Code

UN number : UN 3082

Product Name (Proper : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S. shipping name)

(C12-C15 ALCOHOL)

Class (Hazard class in

transportation)

: 9

: 9

: 111 Packing group Labels : 9 Marine pollutant : yes

Maritime transport in bulk according to IMO instruments

: Y Pollution category 2 Ship type

Product name : Alcohols (C13+)

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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 of Nitrogen is an odourless and invision nitrogen enriched atmospheres diswhich may cause asphyxiation or observe strict safety precautions of confined space entry. Transport in bulk according to Ani Code	sible gas. Exposure to splaces available oxygen death. Personnel must when involved with a	

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Not DG Designated combustibles, Flammable solid

Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
Alkanol(C=10-16) (only the substances that contain any of C=11-14	171
components)	

Industrial Safety and Health Law

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

Chemical name	Number	Concentration (%)
Alkanol(C=10-16) (only the substances	127	90 - 100
that contain any of C=11-14 components)		

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Thursday (Entercontain Gradi Thursday)		
Chemical name	Number	
Alkanol(C=10-16) (only the substances that contain any of C=11-14	127	
components)		

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

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Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Not applicable

Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

High Pressure Gas Safety Act

Not applicable

Aviation Law

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Classified as marine pollutant(Category Y)

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

DSL : Listed

IECSC : Listed

KECI : Listed

NZIoC : Listed

PICCS : Listed

TSCA : Listed

TCSI : Listed

AIIC : Listed

ENCS : Listed

16. OTHER INFORMATION

Full text of H-Statements

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute Short-term (acute) aquatic hazard Aquatic Chronic Long-term (chronic) aquatic hazard

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

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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.

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).

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

JP / EN