## C AE-3A

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#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : C AE-3A

Product code : V2741

CAS-No. : 68439-50-9

## 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 : +65 6384 8269

Telephone : +65 6384 8269 Telefax : +65 6384 8454

Contact for Safety Data

Emergency telephone

Sheet

: +800 2537 8747 ( ALERT SGS- toll Free) or +65 6542 9595

number (ALERT SGS)

## 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.

This product must not be used in applications other than those

listed in Section 1 without first seeking the advice of the

supplier.

## 2. HAZARDS IDENTIFICATION

## **GHS Classification**

Eye irritation : Category 2B Short-term (acute) aquatic : Category 1

hazard

Long-term (chronic) aquatic : Category 2

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: H320 Causes eye irritation. ENVIRONMENTAL HAZARDS: H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

**Prevention:** 

P264 Wash hands thoroughly after handling. P273 Avoid release to the environment.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

P391 Collect spillage.

Storage:

No precautionary phrases.

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

Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

3.1 Substances

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## Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
C12-14 Alcohol ethoxylate	68439-50-9	Eye Irrit.2B; H320 Aquatic Acute1; H400 Aquatic Chronic2; H411	<= 100

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.

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

symptoms persist, obtain medical advice.

: Remove contaminated clothing. Flush exposed area with In case of skin contact

water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses, if present and easy to do. Continue

rinsina.

Transport to the nearest medical facility for additional

treatment.

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.

No specific hazards under normal use conditions.

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.

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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 : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

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

: 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 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.

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Use appropriate containment to avoid environmental

contamination.

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.

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

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.

Do not empty into drains.

Avoidance of contact : Copper.

Copper alloys.

Strong oxidising agents.

Aluminum

Product Transfer : Keep containers closed when not in use. Refer to guidance

under Handling section.

**Storage** 

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

covering the packaging and storage of this product.

Other data : 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

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	Vapours from tanks should not be Breathing losses during storage s suitable vapour treatment system Nitrogen blanket recommended form3 or higher).  Insulation (lagging) will minimize ambient temperature.  Tanks should be fitted with heating ambient conditions can result in heating a storage of the storage	not exceed 100 °C. 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	
Packaging material	<ul> <li>Suitable material: Stainless steel.</li> <li>Unsuitable material: Aluminum, C</li> </ul>		
Container Advice	explosive vapours. Do not cut, dr	: 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 re storage facilities are followed.	egarding handling and	

## 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/

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

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## **Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. Eve washes and showers for emergency use.

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.

Do not ingest. If swallowed, then seek immediate medical assistance.

## 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)].

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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 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.

Wear goggles for use against liquids and gas. Eye protection Wear full face shield if splashes are likely to occur.

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.

Thermal hazards : Not applicable

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

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.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear to slightly hazy liquid.

Colour : Colourless to yellowish

Odour Data not available Odour Threshold Data not available

рΗ

Melting point/freezing point : Data not available : 250 °C / 482 °F Boiling point/boiling range

 $: > 148.9 \, ^{\circ}\text{C} / > 300.0 \, ^{\circ}\text{F}$ Flash point

Evaporation rate Data not available Flammability (solid, gas) Data not available

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

Vapour pressure : <= 0.013 hPa (20 °C / 68 °F)

Relative vapour density : Data not available Relative density : no data available

: 0.96 g/cm3 (50 °C / 122 °F) Density Method: ASTM D4052

Solubility(ies)

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

Partition coefficient: n-

octanol/water

: Data not available

Auto-ignition temperature : Data not available Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic Data not available Viscosity, kinematic : Data not available

Particle characteristics

Particle size : Data not available

Data not available

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Explosive properties : no data available

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.

Molecular weight : Data not available

## 10. STABILITY AND REACTIVITY

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

oxidise in the presence of air.

Chemical stability : Stable under normal conditions.

Possibility of hazardous

reactions

: None known.

Conditions to avoid : Extremes of temperature and direct sunlight.

Product cannot ignite due to static electricity.

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).

Information on likely routes of :

exposure

Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

## **Acute toxicity**

### **Components:**

### C12-14 Alcohol ethoxylate:

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Acute oral toxicity : LD50 Rat: > 5000 mg/kg

Remarks: Low toxicity

Acute inhalation toxicity : Remarks: Low toxicity by inhalation.

Acute dermal toxicity : LD50 Rabbit: > 2000 mg/kg

Remarks: Low toxicity

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

## Skin corrosion/irritation

#### Components:

### C12-14 Alcohol ethoxylate:

Remarks: Causes mild skin irritation., Repeated exposure may cause skin dryness or cracking.

## Serious eye damage/eye irritation

## **Components:**

### C12-14 Alcohol ethoxylate:

Remarks: Expected to be irritating to eyes.

## Respiratory or skin sensitisation

## **Components:**

## C12-14 Alcohol ethoxylate:

Remarks: Not a sensitiser.

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

## Germ cell mutagenicity

## **Components:**

## C12-14 Alcohol ethoxylate:

Genotoxicity in vitro : Remarks: Non mutagenic

: Remarks: Non mutagenic

#### Carcinogenicity

## **Components:**

## C12-14 Alcohol ethoxylate:

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

Material	GHS/CLP Carcinogenicity Classification
C12-14 Alcohol ethoxylate	No carcinogenicity classification.

## Reproductive toxicity

## Components:

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## C12-14 Alcohol ethoxylate:

.

Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

## STOT - single exposure

### **Components:**

#### C12-14 Alcohol ethoxylate:

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

## STOT - repeated exposure

## **Components:**

## C12-14 Alcohol ethoxylate:

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

## **Aspiration toxicity**

## **Components:**

## C12-14 Alcohol ethoxylate:

Not an aspiration hazard.

### **Further information**

#### Components:

## C12-14 Alcohol ethoxylate:

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:**

## C12-14 Alcohol ethoxylate:

Toxicity to fish (Acute

toxicity)

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

Very toxic.

Data estimated using read-across from similar substances

Toxicity to crustacean (Acute : Remarks: LC/EC/IC50 < 1 mg/l

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toxicity) Very toxic.

Data estimated using read-across from similar substances

Toxicity to algae/aquatic

plants (Acute toxicity) Very toxic.

: Remarks: LC/EC/IC50 < 1 mg/l Very toxic.

Data estimated using read-across from similar substances

M-Factor (Short-term (acute)

aquatic hazard)

: 10

Toxicity to microorganisms

(Acute toxicity)

: Remarks: LC/EC/IC50 > 100 mg/l

Practically non toxic:

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

Toxicity to fish (Chronic

toxicity)

: Remarks: NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l Data estimated using read-across from similar substances

Toxicity to : Remarks: NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l crustacean(Chronic toxicity) Data estimated using read-across from similar substances

## Persistence and degradability

#### **Components:**

C12-14 Alcohol ethoxylate:

Biodegradability : Remarks: Readily biodegradable.

## Bioaccumulative potential

**Product:** 

Partition coefficient: n-

octanol/water Components:

: Remarks: Data not available

C12-14 Alcohol ethoxylate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely to occur due to

metabolism and excretion.

## Mobility in soil

## **Components:**

C12-14 Alcohol ethoxylate:

Mobility : Remarks: Floats on 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

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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.

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.

#### 14. TRANSPORT INFORMATION

## **International Regulations**

**ADR** 

UN number : 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Alcohol C12-C16 Poly (1-6) Ethoxylate)

Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Alcohol C12-C16 Poly (1-6) Ethoxylate)

Class : 9
Packing group : III
Labels : 9

**IMDG-Code** 

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Alcohol C12-C16 Poly (1-6) Ethoxylate)

Class : 9
Packing group : III
Labels : 9
Marine pollutant : yes

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## Maritime transport in bulk according to IMO instruments

Pollution category : Y Ship type : 2

Product name : ALCOHOL (C12-C16) POLY (1-6) ETHOXYLATES

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.

## 15. REGULATORY INFORMATION

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

## **Local Regulations**

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations	This product is subject to the SDS, Labelling, PEL and other requirements in the Act/ Regulations.
Fire Safety Act and Fire Safety (Petroleum & Flammable Materials) Regulations	This product is not subject to the requirements in the Act/Regulations.
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations	This product is subject to the requirements of this regulation.
Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations	This product is not subject to the requirements in the Act/Regulations.

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

## Other international regulations

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

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

## **16. OTHER INFORMATION**

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#### **Full text of H-Statements**

H320 Causes eye irritation. H400 Very toxic to aquatic life.

H411 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

Eye Irrit. Eye irritation

#### **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.

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

from the previous version.

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

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compile the Safety Data	sources of information (e.g. toxicological data from Shell	
Sheet	Health Services, material suppliers' data, CONCAWE, EU	
	IUCLID date base, EC 1272 regula	ation, 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.

SG / EN