## **AE01**

Version 3.1 Revision Date 09.11.2020 Print Date 06.09.2022

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AE01

Product code : V2542, V2648

Synonyms : Alcohols, C12-14, ethoxylated

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

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Telephone : +65 6384 8737 Telefax : +65 6384 8454

Email Contact for Safety Data

Sheet

Emergency telephone : +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.

#### 2. HAZARDS IDENTIFICATION

**GHS Classification** 

Short-term (acute) aquatic : Category 1

hazard

Long-term (chronic) aquatic

hazard

Category 3

**GHS** label elements

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.

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> **ENVIRONMENTAL HAZARDS:** H400 Very toxic to aquatic life.

H412 Harmful 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

7.00-20.00.00.00.00.00				
Chemical name	CAS-No.	Classification	Concentration (%	
			w/w)	
C12-14 Alcohol ethoxylate	68439-50-9	Aquatic Acute1; H400	100	
		Aquatic Chronic3;		
		H412		

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.

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

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> 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.

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.

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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

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

ambient temperature.

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

the freezing point/pour point of the product.

Packaging material : Suitable material: Stainless steel., Epoxy resins, Polyester.

Unsuitable material: Aluminum, Copper., Copper alloys.

Container Advice : Containers, even those that have been emptied, can contain

explosive vapours. Do not cut, drill, grind, weld or perform

similar operations on or near containers.

Specific use(s) : Not applicable

Ensure that all local regulations regarding handling and

storage facilities are followed.

# 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Biological occupational exposure limits

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No biological limit allocated.

## **Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

### **Engineering measures**

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

#### Personal protective equipment

#### Protective measures

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

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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. When prolonged or frequent repeated contact occurs. 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.

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

protective eyewear is recommended.

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

work clothes.

It is good practice to wear chemical resistant gloves.

Thermal hazards : Not applicable

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

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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 : Clear to slightly hazy liquid.

Colour : clear

Odour : Data not available
Odour Threshold : Data not available

pH : 6 - 7.5

Melting / freezing point : Data not available

Boiling point/boiling range : Data not available

Flash point : > 135 °C / > 275 °F

Evaporation rate : Data not available Flammability (solid, gas) : Not applicable

Upper explosion limit : Data not available
Lower explosion limit : Data not available
Vapour pressure : Data not available
Relative vapour density : Data not available
Relative density : Data not available
Density : Data not available

Solubility(ies)

Water solubility : Data not available
Partition coefficient: n- : Data not available

octanol/water

Auto-ignition temperature : Data not available

Decomposition temperature : Data not available

Viscosity

Viscosity, kinematic : Data not available Explosive properties : Not classified

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Oxidizing properties : Not applicable

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.

Particle size Data not available

Molecular weight : Data not available

### 10. STABILITY AND REACTIVITY

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

oxidise in the presence of air.

: Stable under normal conditions. Chemical stability

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.

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 : LD50 Rat: > 5000 mg/kg

Remarks: Low toxicity:

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

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Acute inhalation toxicity : Remarks: Not expected to be a hazard.

Acute dermal toxicity : LD50 : > 5000 mg/kg

Remarks: Low toxicity:

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

### Skin corrosion/irritation

## **Product:**

Remarks: Not irritating to skin.

### Serious eye damage/eye irritation

## **Product:**

Remarks: Not irritating to eye.

## Respiratory or skin sensitisation

### **Product:**

Remarks: Not a sensitiser.

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

## Germ cell mutagenicity

### **Product:**

: Remarks: Non mutagenic

### Carcinogenicity

## **Product:**

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

#### Product:

Remarks: Does not impair fertility., Not a developmental toxicant.

## STOT - single exposure

# Product:

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

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### STOT - repeated exposure

#### **Product:**

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

### **Aspiration toxicity**

#### **Product:**

Not an aspiration hazard.

#### **Further information**

### **Product:**

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.

## **Ecotoxicity**

## **Product:**

Toxicity to fish (Acute

toxicity) Remarks: Very toxic.

LC/EC/IC50 < 1 mg/I

Toxicity to crustacean (Acute

toxicity)

Remarks: Very toxic.

LC/EC/IC50 < 1 mg/l

Toxicity to algae/aquatic

plants (Acute toxicity)

Remarks: Very toxic.

LC/EC/IC50 < 1 mg/l

Toxicity to fish (Chronic

toxicity)

: Remarks: NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l

Toxicity to crustacean

(Chronic toxicity)

: Remarks: NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l

Toxicity to microorganisms

(Acute toxicity)

: Remarks: LL/EL/IL50 > 100 mg/l

Practically non toxic:

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

### **Components:**

## C12-14 Alcohol ethoxylate:

M-Factor (Short-term (acute)

aquatic hazard)

. 1

#### Persistence and degradability

#### **Product:**

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Biodegradability : Remarks: Readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely to occur due to

metabolism and excretion.

Partition coefficient: n-

octanol/water

: Remarks: Data not available

Mobility in soil

**Product:** 

Mobility : Remarks: Floats on water., If the product enters soil, one or

more constituents will or may be mobile and may contaminate

groundwater.

Other adverse effects

no data available

#### 13. DISPOSAL CONSIDERATIONS

## **Disposal methods**

Waste from residues : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water

courses

Waste product should not be allowed to contaminate soil or

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

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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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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.

**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.

### 15. REGULATORY INFORMATION

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

**Local Regulations** 

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Safety and Health (General Provision	n) PEL and other requir	rements in the Act/
Regulations	Regulations.	
Fire Safety Act and Fire Safety (Petro	oleum & This product is not so	ubject to the requirements
Flammable Materials) Regulations	in the Act/Regulation	IS.
Maritime and Port Authority of Singa		ect to the requirements of
(Dangerous Goods, Petroleum and E	Explosives) this regulation.	
Regulations		
Environmental Protection and Manag		ubject to the requirements
and Environmental Protection and	in the Act/Regulation	is.
Management (Hazardous Substance	s)	
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 **ENCS** Listed KECI Listed **NZIoC** Listed **PICCS** Listed NLP : Listed **TSCA** : Listed

### **16. OTHER INFORMATION**

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

H400 Very toxic to aquatic life.

H412 Harmful 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**

AICS - Australian Inventory of Chemical Substances; 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

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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; 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.

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