

SAFETY DATA SHEET

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

NEODOL 23-2

Initial release date: 2007/02/08

Revision Date: 24.04.2024

Version 5.1

SDS Number: 800001001061

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : NEODOL 23-2

Product code : V2597

Registration number EU : 01-2119490233-42-0001

Synonyms : Alcohols, C12-13, ethoxylated

CAS-No. : 160901-19-9

EC-No. : 500-457-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Use in detergent and intermediate manufacture

Recommended restrictions on use : This product must not be used in applications other than the above without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Company : **Shell Chemicals Europe B.V.**
PO Box 2334
3000 CH Rotterdam
Netherlands

Telephone : +31 (0)10 441 5137 / +31 (0)10 441 5191

Telefax : +31 (0)20 716 8316 / +31 (0)20 713 9230

E-mail address of person responsible for the SDS : sccmsds@shell.com

1.4 Emergency telephone number

Emergency telephone number : +44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week)
National Poison Counselling Centre (UZEM) – 114

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.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification T.R. SEA No 28848

Short-term (acute) aquatic hazard, Category 4 : H400: Very toxic to aquatic life.

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Long-term (chronic) aquatic hazard, Category 2

H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling T.R. SEA No 28848

Hazard pictograms :



Signal word : Warning

Hazard statements :

H400

H411

PHYSICAL HAZARDS:

Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:

Not classified as a health hazard under GHS criteria.

ENVIRONMENTAL HAZARDS:

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P273

Response:

P391

Storage:

Disposal:

P501

Avoid release to the environment.

Collect spillage.

No precautionary phrases.

Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Alcohols, C12-13, ethoxylated

Hazardous components

Chemical name	CAS-No. EC-No.	T.R. SEA No 28848	Concentration (% w/w)
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	Registration number		
Alcohols, C12-13, branched & linear, ethoxylated	160901-19-9	Aquatic Acute1; H400 Aquatic Chronic2; H411	<= 100

SECTION 4: First aid measures

4.1 Description of first aid measures

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

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : 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.
- No specific hazards under normal use conditions.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
- No specific hazards under normal use conditions.

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Ingestion may result in nausea, vomiting and/or diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Call a doctor or poison control center for guidance.
Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : 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.

5.3 Advice for firefighters

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).

Specific extinguishing methods : Standard procedure for chemical fires.

Further information : Clear fire area of all non-emergency personnel.
Keep adjacent containers cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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

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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.

6.2 Environmental precautions

- 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.

6.3 Methods and material for containment and cleaning up

- Methods for 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.

6.4 Reference to other sections

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.

SECTION 7: Handling and storage

7.1 Precautions for safe 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.

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Sudden Release of Pressure Hazard

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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 the freezing point/pour point of the product.

Packaging material : Suitable material: Stainless steel., Epoxy resins, Polyester.
Unsuitable material: Aluminum, Copper., Copper alloys.

7.3 Specific end use(s)

Specific use(s) : Please refer to section 16 and/or the annexes for the registered uses under REACH.

Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Biological occupational exposure limits

No biological limit allocated.

8.2 Exposure controls

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:

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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

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

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.

Skin and body protection : Skin protection is not ordinarily required beyond standard work clothes.
It is good practice to wear chemical resistant gloves.

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.

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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)].

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

Thermal hazards : Not applicable

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Clear or slightly turbid liquid.

Colour : colourless

Odour : mild

Odour Threshold : Data not available

pH : 6,8, 0.5% mass aqueous solution.

pour point : 2 °C

Melting point/freezing point : no data available

Boiling point/boiling range : Data not available

Flash point : 152 °C
Method: ASTM D93 (PMCC)

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Evaporation rate	: Data not available
Flammability	
Flammability (solid, gas)	: Not applicable
Lower explosion limit and upper explosion limit / flammability limit	
Upper explosion limit	: Data not available
Lower explosion limit	: Data not available
Vapour pressure	: 0,1 Pa (20 °C)
Relative vapour density	: Data not available
Relative density	: 0,892 Method: ASTM D4052
Density	: 892 kg/m ³ (40 °C) Method: ASTM D4052
Solubility(ies)	
Water solubility	: 5.000 mg/l (22 °C)
Partition coefficient: n-octanol/water	: log Pow: 3
Auto-ignition temperature	: Data not available
Decomposition temperature	: Data not available
Viscosity	
Viscosity, dynamic	: 35 mPa.s (20 °C) Method: ASTM D445
	50 mPa.s (Not applicable) Method: ASTM D445
Viscosity, kinematic	: 15 mm ² /s (40 °C) Method: ASTM D445
Explosive properties	: Not applicable
Oxidizing properties	: Data not available

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9.2 Other information

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 : Data not available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable at normal ambient temperature and pressure.
May oxidise in the presence of air.

10.2 Chemical stability

The product is chemically stable.
Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : Copper.
Copper alloys.
Strong oxidising agents.
Aluminum

10.6 Hazardous decomposition products

None expected under normal use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD 50 (Rat, male and female): > 5.000 mg/kg

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	<p>Method: Test(s) equivalent or similar to OECD Test Guideline 401 Remarks: Based on available data, the classification criteria are not met. Low toxicity LD50 >5000 mg/kg</p>
Acute inhalation toxicity	<p>: LC 50 (Rat, male and female): > 1,6 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Test(s) equivalent or similar to OECD Test Guideline 403 Remarks: Based on available data, the classification criteria are not met. LC50 greater than near-saturated vapour concentration. Low toxicity LC50 > 1.0 - <= 5.0 mg/l</p>
Acute dermal toxicity	<p>: 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. May be harmful in contact with skin. LD50 >2000 - <=5000 mg/kg</p>

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Acute oral toxicity	<p>: LD 50 (Rat, male and female): > 5.000 mg/kg Method: Test(s) equivalent or similar to OECD Test Guideline 401 Remarks: Based on available data, the classification criteria are not met. Low toxicity LD50 >5000 mg/kg</p>
Acute inhalation toxicity	<p>: LC 50 (Rat, male and female): > 1,6 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Test(s) equivalent or similar to OECD Test Guideline 403 Remarks: Based on available data, the classification criteria are not met. LC50 greater than near-saturated vapour concentration. Low toxicity LC50 > 1.0 - <= 5.0 mg/l</p>
Acute dermal toxicity	<p>: 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. May be harmful in contact with skin. LD50 >2000 - <=5000 mg/kg</p>

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Skin corrosion/irritation

Product:

Species: Rabbit

Method: Test(s) equivalent or similar to OECD Test Guideline 404

Remarks: Slightly irritating.

Insufficient to classify.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Species: Rabbit

Method: Test(s) equivalent or similar to OECD Test Guideline 404

Remarks: Slightly irritating.

Insufficient to classify.

Serious eye damage/eye irritation

Product:

Species: Rabbit

Method: Test(s) equivalent or similar to OECD Test Guideline 405

Remarks: Slightly irritating.

Insufficient to classify.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Species: Rabbit

Method: Test(s) equivalent or similar to OECD Test Guideline 405

Remarks: Slightly irritating.

Insufficient to classify.

Respiratory or skin sensitisation

Product:

Species: Guinea pig

Method: Test(s) equivalent or similar to OECD Test Guideline 406

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

Not a sensitiser.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Species: Guinea pig

Method: Test(s) equivalent or similar to OECD Test Guideline 406

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

Not a sensitiser.

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Germ cell mutagenicity

Product:

Genotoxicity in vitro : Method: Test(s) equivalent or similar to OECD Test Guideline 473
Remarks: Based on available data, the classification criteria are not met.
Non mutagenic

Genotoxicity in vivo : Species: Mouse
Method: OECD Test Guideline 474
Remarks: Based on available data, the classification criteria are not met.
Non mutagenic

Germ cell mutagenicity- Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Genotoxicity in vitro : Method: Test(s) equivalent or similar to OECD Test Guideline 473
Remarks: Based on available data, the classification criteria are not met.
Non mutagenic

Genotoxicity in vivo : Species: Mouse
Method: OECD Test Guideline 474
Remarks: Based on available data, the classification criteria are not met.
Non mutagenic

Germ cell mutagenicity- Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Carcinogenicity

Product:

Method: Based on weight of evidence.

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

Not a carcinogen.

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Method: Based on weight of evidence.

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

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Material	SEA Carcinogenicity Classification
Alcohols, C12-13, branched & linear, ethoxylated	No carcinogenicity classification.

Reproductive toxicity

Product:

Effects on fertility : Species: Rat
Sex: male and female
Application Route: Dermal

Method: Equivalent or similar to OECD Test Guideline 416
Remarks: Based on available data, the classification criteria are not met.
Does not impair fertility.

Effects on foetal development : Species: Rat, male and female
Application Route: Dermal
Method: Test(s) equivalent or similar to OECD Test Guideline 414
Remarks: Based on available data, the classification criteria are not met.
Not a developmental toxicant.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Effects on fertility : Species: Rat
Sex: male and female
Application Route: Dermal

Method: Equivalent or similar to OECD Test Guideline 416
Remarks: Based on available data, the classification criteria are not met.
Does not impair fertility.

Effects on foetal development : Species: Rat, male and female
Application Route: Dermal
Method: Test(s) equivalent or similar to OECD Test Guideline 414
Remarks: Based on available data, the classification criteria are not met.

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Not a developmental toxicant.

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:

Alcohols, C12-13, branched & linear, ethoxylated:

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:

Alcohols, C12-13, branched & linear, ethoxylated:

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

Repeated dose toxicity

Product:

Species: Rat, male and female

Application Route: Oral

Method: Test(s) equivalent or similar to OECD Test Guideline 408

Target Organs: No specific target organs noted

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Species: Rat, male and female

Application Route: Oral

Method: Test(s) equivalent or similar to OECD Test Guideline 408

Target Organs: No specific target organs noted

Aspiration toxicity

Product:

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

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

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Further information

Product:

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

Remarks: Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish (Acute toxicity) : LC50 (Pimephales promelas (fathead minnow)): 1,19 mg/l
Exposure time: 96 h
Method: Test(s) equivalent or similar to OECD Guideline 203
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : (Daphnia magna (Water flea)): 0,238 mg/l
Exposure time: 48 h
Method: Test(s) equivalent or similar to OECD Guideline 202
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l

Toxicity to algae (Acute toxicity) : EC50 (Selenastrum capricornutum (green algae)): 0,179 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l

Toxicity to fish (Chronic toxicity) : NOEC: 0,328 mg/l
Species: Lepomis macrochirus (Bluegill sunfish)
Method: Based on quantitative structure-activity relationship (QSAR) modelling
Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,012 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Toxicity to bacteria (Acute toxicity) : EC10 (Pseudomonas putida): > 10 g/l
Exposure time: 16,9 h
Method: Test(s) equivalent or similar to OECD Guideline 209

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Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

- Toxicity to fish (Acute toxicity) : LC50 (Pimephales promelas (fathead minnow)): 0,96 mg/l
Exposure time: 96 h
Method: Test(s) equivalent or similar to OECD Guideline 203
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : (Daphnia magna (Water flea)): 0,46 mg/l
Exposure time: 48 h
Method: Test(s) equivalent or similar to OECD Guideline 202
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l
- Toxicity to algae (Acute toxicity) : EC50 (Selenastrum capricornutum (green algae)): 0,069 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Very toxic.
LC/EC/IC50 < 1 mg/l
- M-Factor (Short-term (acute) aquatic hazard) : 1
- Toxicity to bacteria (Acute toxicity) : EC10 (Pseudomonas putida): > 10 g/l
Exposure time: 16,9 h
Method: Test(s) equivalent or similar to OECD Guideline 209
Remarks: Practically non toxic:
LC/EC/IC50 > 100 mg/l
- Toxicity to fish (Chronic toxicity) : NOEC: 0,16 mg/l
Exposure time: 10 d
Species: Lepomis macrochirus (Bluegill sunfish)
Method: Information given is based on data obtained from similar substances.
Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0123 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Toxic with long lasting effects:
NOEC/NOEL > 0.01 - <=0.1 mg/l

12.2 Persistence and degradability

Product:

- Biodegradability : Biodegradation: 67 %
Exposure time: 28 d

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Method: OECD Test Guideline 301F

Remarks: Readily biodegradable.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Biodegradability : Biodegradation: 95 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Biodegradation potential is based on data obtained from constituents or similar substances.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Bioaccumulation : Species: Pimephales promelas (fathead minnow)
Exposure time: 24 d
Bioconcentration factor (BCF): 12,7
Test substance: C12EO8
Method: Information given is based on data obtained from similar substances.
Remarks: Bioaccumulation is unlikely to occur due to metabolism and excretion.

Species: Pimephales promelas (fathead minnow)
Exposure time: 24 d
Bioconcentration factor (BCF): 232,5
Test substance: C13EO4
Method: Information given is based on data obtained from similar substances.
Remarks: Bioaccumulation is unlikely to occur due to metabolism and excretion.

12.4 Mobility in soil

Product:

Mobility : Remarks: If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater., Floats on water.

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Mobility : Remarks: If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater., Floats on water.

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12.5 Results of PBT and vPvB assessment

Product:

Assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB..

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

Assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB..

12.6 Other adverse effects

Product:

Further information : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Additional ecological information : Remarks: Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components:

Alcohols, C12-13, branched & linear, ethoxylated:

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.

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

SECTION 14: Transport information

14.1 UN number

ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ALCOHOL C12-C13 POLY (1-3)ETHOXYLATE)
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ALCOHOL C12-C13 POLY (1-3)ETHOXYLATE)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ALCOHOL C12-C13 POLY (1-3)ETHOXYLATE)
IATA : Environmentally hazardous substances, liquid, n.o.s.
(ALCOHOL C12-C13 POLY (1-3)ETHOXYLATE)

14.3 Transport hazard class(es)

ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

RID
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

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Packing group : III

Labels : 9

IATA

Packing group : III

Labels : 9

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

Pollution category : Y

Ship type : 2

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

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

SECTION 15: Regulatory information

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

KKDIK (30105 (Bis)) - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex 17) : Conditions of restriction for the following entries should be considered: Entry number 3

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E1 ENVIRONMENTAL HAZARDS

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

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Regulations on the health and safety precautions for chemicals in the workplace. Regulations on the fire protection of buildings. Regulations on the prevention of industrial accidents and the reduction of their effects.

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

AIIC : Listed

DSL : Listed

IECSC : Listed

KECI : Listed

NZIoC : Listed

PICCS : Listed

TSCA : Listed

ENCS : Listed

TCSI : Listed

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air

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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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Prepared by

Name : Esra BAL / CRAD - Kimyasal Değerlendirme Uzmanı

Certified Qualification date : 12.09.2023

Certificate number : TÜV/11.209.02

Expiry date : 12.09.2028

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 data 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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