

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : NEODOL 45

Product code : V2456

CAS-No. : 75782-87-5

Manufacturer or supplier's details

Manufacturer/Supplier : **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

Emergency telephone number : +44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week)

Recommended use of the chemical and restrictions on use

Recommended use : Use in detergent manufacture.

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

Other information : NEODOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Royal Dutch Shell plc.

2. HAZARDS IDENTIFICATION

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard : Category 1

Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard according to CLP criteria.
HEALTH HAZARDS:

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

Not classified as a health hazard under CLP criteria.
ENVIRONMENTAL HAZARDS:
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

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

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
C14-15 Alcohols	75782-87-5	Aquatic Chronic 1; H410	<= 100

Refer to Chapter 8 for Occupational Exposure Guidelines.

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 rinsing.

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

If persistent irritation occurs, obtain medical attention.

If swallowed	: In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Most important symptoms and effects, both acute and delayed	: Not considered to be an inhalation hazard under normal conditions of use. Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. 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. Ingestion may result in nausea, vomiting and/or diarrhoea.
Protection of first-aiders	: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Notes to physician	: Call a doctor or poison control center for guidance. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point	: 157 °C / 315 °F Method: ASTM D93 (PMCC)
Ignition temperature	: Data not available
Upper explosion limit	: Data not available
Lower explosion limit	: Data not available
Flammability (solid, gas)	: Not classified as flammable but will burn.
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.
Specific hazards during firefighting	: Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water.

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

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| 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. |
| 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

- | | | |
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| 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 |

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

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.
Sudden Release of Pressure Hazard

Avoidance of contact : Copper.
Copper alloys.
Strong oxidising agents.
Aluminum

Product Transfer : Keep containers closed when not in use. Do not use compressed air for filling discharge or handling.

Storage

Conditions for safe storage : Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Other data : Bulk storage tanks should be diked (bunded).
Vapours from tanks should not be released to atmosphere.
Breathing losses during storage should be controlled by a suitable vapour treatment system.
Nitrogen blanket recommended for large tanks (capacity 100 m³ or higher).
Insulation (lagging) will minimize heat loss in areas of low ambient temperature.
Tanks should be fitted with heating coils in areas where ambient conditions can result in handling temperatures below 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

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 Sécurité, (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

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Protective measures

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

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)].

Hand protection
Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable 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.

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

- 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 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 : Waxy solid at 20 °C.
- Colour : white
- Odour : mild
- Odour Threshold : Data not available
- pH : Not applicable
- Melting / freezing point : 29 - 36 °C / 84 - 97 °F
- Boiling point/boiling range : 289 °C / 552 °F (1013,0 hPa)
- Flash point : 157 °C / 315 °F
Method: ASTM D93 (PMCC)
- Evaporation rate : Data not available
- Flammability (solid, gas) : Not classified as flammable but will burn.
- Upper explosion limit : Data not available
- Lower explosion limit : Data not available
- Vapour pressure : < 0,05 hPa (25 °C / 77 °F)
- Relative vapour density : 7,5
- Relative density : 0,824 (38 °C / 100 °F)
- Density : 823 kg/m³ (40 °C / 104 °F)
Method: ASTM D1298

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

Solubility(ies)

Water solubility : ca. 0,2 mg/l negligible (25 °C / 77 °F)

Partition coefficient: n-octanol/water : log Pow: 6 - 6,2

Auto-ignition temperature : Data not available

Decomposition temperature : Data not available

Viscosity

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

Viscosity, dynamic : 50 mPa.s (35 °C / 95 °F)

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

Explosive properties : Not applicable

Oxidizing properties : Data not available

Surface tension : Data not available

Conductivity : Electrical conductivity: > 10,000 pS/m

A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.

Particle size : Data not available

Molecular weight : 218 - 224 g/mol

10. STABILITY AND REACTIVITY

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

Chemical stability : The product is chemically stable. Stable under normal conditions.

Possibility of hazardous reactions : None known.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Copper.
Copper alloys.
Strong oxidising agents.
Aluminum

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

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.

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 : LD50 : > 5000 mg/kg
Remarks: Low toxicity:

Acute inhalation toxicity : Remarks: Low toxicity if inhaled.
Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 : > 5000 mg/kg
Remarks: Low toxicity:

Skin corrosion/irritation

Product:

Remarks: Causes mild skin irritation.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

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.

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

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

Reproductive toxicity

Product:

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

STOT - single exposure

Product:

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.

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: No toxicity at the limit of solubility

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

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

Toxicity to algae/aquatic plants (Acute toxicity)	:	Remarks: No toxicity at the limit of solubility
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean (Chronic toxicity)	:	Remarks: NOEC/NOEL <= 0.01 mg/l
Toxicity to microorganisms (Acute toxicity)	:	Remarks: No toxicity at the limit of solubility

Persistence and degradability

Product:

Biodegradability	:	Remarks: Readily biodegradable.
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Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely to occur due to metabolism and excretion.
Partition coefficient: n-octanol/water	:	log Pow: 6 - 6,2

Mobility in soil

Product:

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

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

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.
(C12-C15 ALCOHOL)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90
Environmentally hazardous : yes

ADN

UN number : 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(C12-C15 ALCOHOL)
Class : 9
Packing group : III
Labels : 9 (N2, F)
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(C12-C15 ALCOHOL)
Class : 9
Packing group : III
Labels : 9

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(C12-C15 ALCOHOL)
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

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

Product name : Alcohols (C13+)

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

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:

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

16. OTHER INFORMATION

Full text of H-Statements

H410 Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic Long-term (chronic) aquatic hazard

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

SDS Regulation : 1. GN 2.2.5.1313-03 "Maximum permissible concentration of harmful substance in the working zone area".

SAFETY DATA SHEET

NEODOL 45

Version 1.3

Revision Date 26.01.2022

Print Date 29.08.2022

2. GOST 12.1.007-76 "Harmful agents. Classification and safety requirements."
 3. GOST 12.1.005-88 "General hygiene requirements to the working zone area".
 4. GN 2.1.5.1315-03 "Reservoir water maximum permissible concentration".
 5. GOST 19433-88 "Dangerous goods. Classification and marking".
 6. Rail transportation safety rules and dangerous goods accidents liquidation procedure.
 7. GOST 30333-2007 Chemical product safety data sheet. General requirements.
- Regulation 1907/2006/EC

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).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.