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

Product name	:	NEODOL 25-3
Product code	:	V2634, V2667
CAS-No.	:	68131-39-5
Synonyms	:	Alcohols, C12-15, ethoxylated

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	:	+31 (0)10 231 7393 +44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week) UAT for SPS2020 - New ER number

Recommended use of the chemical and restrictions on use

Recommended use	:	Use in detergent and intermediate 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)

Eye irritation	:	Category 2
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 2

Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard according to CLP criteria.
HEALTH HAZARDS:
H319 Causes serious 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/ 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)
C12-15 Alcohol Ethoxylate	68131-39-5	Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 2; 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.
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	:	Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. 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.
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	:	Treat symptomatically. IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! Call a doctor or poison control center for guidance.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during firefighting	:	Carbon monoxide may be evolved if incomplete combustion occurs.

Will float and can be reignited on surface water.
The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Specific extinguishing methods	:	Standard procedure for chemical fires. Clear fire area of all non-emergency personnel. Keep adjacent containers cool by spraying with water.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.
	:	Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet. Stay upwind and keep out of low areas. Be ready for fire or possible exposure.
Environmental precautions	:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental contamination. Ventilate contaminated area thoroughly.
Methods and materials for containment and cleaning up	:	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
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. 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 Securité, (INRS), France http://www.inrs.fr/accueil

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.
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.
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)].

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	:	Wear goggles for use against liquids and gas. 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 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	:	Data not available
Odour	:	mild
Odour Threshold	:	Data not available
pH	:	Data not available
pour point	:	5 °C / 41 °F
Melting point/freezing point		5 °C / 41 °F
Boiling point/boiling range	:	> 260 °C / > 500 °F
Flash point	:	163 °C / 325 °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	:	< 0,1 hPa (37,8 °C / 100,0 °F)

Relative vapour density	:	12,0
Relative density	:	0,921 (25,0 °C / 77,0 °F) Method: ASTM D4052
Density	:	0,921 g/cm3 (25 °C / 77 °F) Method: ASTM D4052
		908 kg/m3 (40 °C / 104 °F) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	0,05 g/l negligible
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	Data not available
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	50 mPa.s (20 °C / 68 °F) Method: ASTM D445
Viscosity, kinematic	:	17 mm2/s (40 °C / 104 °F) Method: ASTM D445
Explosive properties	:	Not classified
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
		Data not available
Molecular weight	:	326 - 338 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
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:

C12-15 Alcohol Ethoxylate:

Acute oral toxicity	:	LD50 Rat: > 5000 mg/kg Remarks: Low toxicity Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Remarks: Based on available data, the classification criteria are not met.
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:

C12-15 Alcohol Ethoxylate:
Remarks: Not irritating to skin.

Serious eye damage/eye irritation

Components:

C12-15 Alcohol Ethoxylate:
Species: Rabbit
Exposure time: 24 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

Species: Rabbit
Exposure time: 48 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

Species: Rabbit
Exposure time: 72 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

Respiratory or skin sensitisation

Components:

C12-15 Alcohol Ethoxylate:
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Components:

C12-15 Alcohol Ethoxylate:

Remarks: Non mutagenic

Carcinogenicity

Components:

C12-15 Alcohol Ethoxylate:

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

Material	GHS/CLP Carcinogenicity Classification
C12-15 Alcohol Ethoxylate	No carcinogenicity classification.

Reproductive toxicity

Components:

C12-15 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:

C12-15 Alcohol Ethoxylate:
Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Components:

C12-15 Alcohol Ethoxylate:
Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Components:
C12-15 Alcohol Ethoxylate:
Not an aspiration hazard.

Further information

Components:
C12-15 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:
C12-15 Alcohol Ethoxylate :

Toxicity to fish (Acute toxicity)	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1,3 mg/l Exposure time: 96 h Remarks: Toxic to fish.
Toxicity to crustacean (Acute toxicity)	:	EC50 (Daphnia magna (Water flea)): 0,14 mg/l Exposure time: 48 h Method: Test(s) equivalent or similar to OECD Guideline 202 Remarks: Very toxic to aquatic organisms.
Toxicity to algae/aquatic plants (Acute toxicity)	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): 0,031 mg/l Exposure time: 72 h Method: Test(s) equivalent or similar to OECD Test Guideline 201 Remarks: Harmful to algae.

M-Factor (Short-term (acute) aquatic hazard)	:	1
	:	10
Toxicity to microorganisms (Acute toxicity)	:	EC50 : > 10.000 mg/l Exposure time: 17 h Method: DIN 38 412 Part 8 Remarks: Practically non toxic: Based on available data, the classification criteria are not met.
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean(Chronic toxicity)	:	NOEC: 0,77 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: Test(s) equivalent or similar to OECD Guideline 211 Remarks: Harmful with long lasting effects:
M-Factor (Long-term (chronic) aquatic hazard)	:	1

Persistence and degradability

Components:
C12-15 Alcohol Ethoxylate :

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 61 % Exposure time: 28 d Method: Test(s) equivalent or similar to OECD Guideline 301 B

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water	:	Remarks: Data not available

Components:
C12-15 Alcohol Ethoxylate :

Bioaccumulation	:	Species: Pimephales promelas (fathead minnow) Bioconcentration factor (BCF): 237 Method: No information available. Remarks: Does not bioaccumulate.

Mobility in soil

Components:
C12-15 Alcohol Ethoxylate :

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

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 substances, 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

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.
Additional Information	**:**	This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen 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:

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

16. OTHER INFORMATION

Full text of H-Statements

H319	Causes serious 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	:	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	:	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.