Shell GTL Fluids G80

1. Identification of the substance or mixture and of the company or undertaking

1.1 Product identifier

Product name	:	Shell GTL Fluids G80
Product code	:	Q6580
CAS-No.	:	1437281-03-2

1.2 Identified relevant uses of the substance or mixture and restrictions on use

Recommended use of the chemical and restrictions on use

Recommended use	:	Synthetic drilling base fluid., Feedstock in chemical industry., Solvent.
Restrictions on use	:	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer or supplier's details

Manufacturer/Supplier	:	**Shell CAPSA** Av. Roque Saenz Peña 788 Buenos Aires, 1383 Argentina
Telephone	:	(+54 11) 4130-2168
Telefax	:	(+54 11) 4130-2180

1.4 Emergency telephone number

Emergency telephone number	:	En Argentina: (+11 15) 4970-7391 / 4970-7390 / 5062-6601 / 4973-7368; Desde el exterior: (+54 911) 4970-7391 / 4970-7390 / 5062/6601

2. Hazard or hazards identification

2.1 Classification of the substance or mixture

GHS Classification

Aspiration hazard	:	Category 1

GHS Label elements, including precautionary statements

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
H304 May be fatal if swallowed and enters airways.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

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

Precautionary statements : **Prevention:**
P243 Take action to prevent static discharges.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards
Repeated exposure may cause skin dryness or cracking.
May ignite on surfaces at temperatures above auto-ignition temperature. Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range. This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

3. Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

IUPAC Name : 1437281-03-2
CAS-No. : 1437281-03-2

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	GHS Classification	Concentration (% w/w%)
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear)	1437281-03-2	Asp. Tox. 1; H304	<= 100

For explanation of abbreviations see section 16.

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.

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 : Call emergency number for your location / facility.
If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

4.2 Protection of first-aiders

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.

4.3 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed : Not considered to be an inhalation hazard under normal conditions of use.

No specific hazards under normal use conditions.

Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
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.

Notes to physician : Treat symptomatically.
Call a doctor or poison control center for guidance.
Potential for chemical pneumonitis.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media : 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 firefighting : Clear fire area of all non-emergency personnel.
Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Carbon monoxide.
Unidentified organic and inorganic compounds.
Flammable vapours may be present even at temperatures below the flash point.

5.3 Recomendations for fire-fighters

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions :

Observe all relevant local and international regulations.
Local authorities should be advised if significant spillages cannot be contained.
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
Avoid contact with skin, eyes and clothing.
Do not breathe fumes, vapour.
Evacuate the area of all non-essential personnel.
Take precautionary measures against static discharges.

6.2 Environmental precautions

Environmental precautions	:	Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

6.3 Methods and material for containment and cleaning up

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 Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. 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.

7. Handling and storage

7.1 Precautions for safe handling

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. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.
Advice on safe handling	:	Avoid inhaling vapour and/or mists. Avoid prolonged or repeated contact with skin. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Bulk storage tanks should be diked (bunded). When using do not eat or drink.
Avoidance of contact	:	Strong oxidising agents.
Product Transfer	:	Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Refer to guidance under Handling section.

7.2 Conditions for safe storage, including any incompatibilities

Other data	:	Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labeled and closable containers. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Packaging material	:	Suitable material: Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product., For container linings, use amine-adduct cured epoxy paint., For seals and gaskets use: graphite, PTFE, Viton A, Viton B. Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene., However, some may be suitable for glove materials.
Container Advice	:	Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours.

7.3 Specific end use(s)

Specific use(s)	:	Synthetic drilling base fluid. Feedstock in chemical industry. Solvent.
Uses advised against	:	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

8. Exposure controls and personal protection

8.1 Control parameters

Biological occupational exposure limits

No biological limit allocated.

8.2 Exposure controls

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 : 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:
Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Eye washes and showers for emergency use.

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 for 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.

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. For incidental contact/splash protection - Neoprene rubber. PVC.

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.

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 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

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

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	colourless
Odour	:	hydrocarbon-like
Odour Threshold	:	Data not available
pH	:	Not applicable
Melting point/freezing point	:	no data available
Boiling point, initial boiling point and boiling range	:	210 - 260 °C / 410 - 500 °F
Flash point	:	83,5 °C / 182,3 °F
Evaporation rate	:	Data not available
Upper explosion limit	:	7 %(V)
Lower explosion limit	:	0,5 %(V)
Vapour pressure	:	Data not available (50 °C / 122 °F)

Relative vapour density	:	Data not available
Relative density	:	< 0,8
Density	:	< 800 kg/m3 (15 °C / 59 °F)
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: > 5,5
Auto-ignition temperature	:	> 200 °C / 392 °F
Decomposition temperature	:	no data available
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	< 2 mm2/s (25 °C / 77 °F)
Particle characteristics		
Particle size	:	Data not available

9.2 Other information

Explosive properties	:	Not applicable
Oxidizing properties	:	Not applicable
Surface tension	:	Data not available
Conductivity	:	Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid
Molecular weight	:	Data not available

10. Stability and reactivity

10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions

10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

10.4 Conditions to avoid

Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources.

In certain circumstances product can ignite due to static electricity.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

10.6 Hazardous decomposition products

: Hazardous decomposition products are not expected to form during normal storage.

11. Toxicological information

11.1 Information on toxicological effects

Basis for assessment : Information given is based on product data, a knowledge of the components and the toxicology of similar products.

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: > 5.000 mg/kg
Remarks: Low toxicity
Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC 50 Rat: > 5 mg/l
Exposure time: 4 h
Remarks: Low toxicity if inhaled.

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

Acute dermal toxicity : LD 50 Rabbit: > 2.000 mg/kg
Remarks: Low toxicity
Based on available data, the classification criteria are not met.

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Acute oral toxicity : LD 50 Rat, male and female: > 5.000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC 50 Rat, male and female: > 5 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Test(s) equivalent or similar to OECD Test Guideline 403
Remarks: LC50 greater than near-saturated vapour concentration.
Based on data from similar materials
Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD 50 Rat, male and female: > 2.000 mg/kg
Method: Test(s) equivalent or similar to OECD Test Guideline 402
Remarks: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Slightly irritating to skin., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Species: Rabbit
Method: Test(s) equivalent or similar to OECD Test Guideline 404
Remarks: Moderately irritating to skin (but insufficient to classify)., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Serious eye damage/eye irritation

Product:

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

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Species: Rabbit
Method: OECD Test Guideline 405
Remarks: 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.

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Species: Guinea pig
Method: OECD Test Guideline 406
Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

Remarks: Non mutagenic

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):

Method: Test(s) equivalent or similar to OECD Guideline 471
Remarks: Based on available data, the classification criteria are not met.

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

Method: Test(s) equivalent or similar to OECD Test Guideline 476
Remarks: Based on available data, the classification criteria are not met.

Test species: MouseMethod: Test(s) equivalent or similar to OECD Test Guideline 474
Remarks: Based on available data, the classification criteria are not met.

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

Carcinogenicity

Product:

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

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Species: Rat, (male and female)
Application Route: Inhalation
Method: Test(s) equivalent or similar to OECD Test Guideline 453
Remarks: Weight of evidence does not support classification as a carcinogen

Species: Mouse, (male and female)
Application Route: Inhalation
Method: Test(s) equivalent or similar to OECD Test Guideline 453
Remarks: Weight of evidence does not support classification as a carcinogen

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

Material	GHS/CLP Carcinogenicity Classification
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear)	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.

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Species: Rat
Sex: male and female
Application Route: Oral

Method: Test(s) equivalent or similar to OECD Test Guideline 415.
Remarks: Based on available data, the classification criteria are not met.

Effects on foetal development : Species: Rat, female
Application Route: Oral
Method: Test(s) equivalent or similar to OECD Test Guideline

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

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:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
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:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):

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

Rat, male and female:
Application Route: Inhalation
Test atmosphere: vapour
Method: Test(s) equivalent or similar to OECD Test Guideline 413
Target Organs: No specific target organs noted

Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

11.2 Information on other hazards

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Further information

Product:

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

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear):
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

12. Ecological information

Basis for assessment	:	Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

12.1 Toxicity

Product:

Toxicity to fish (Acute toxicity)	:	Remarks: LL/EL/IL50 > 100 mg/l Practically non toxic: Based on available data, the classification criteria are not met.
Toxicity to crustacean (Acute toxicity)	:	Remarks: LL/EL/IL50 > 100 mg/l Practically non toxic: Based on available data, the classification criteria are not met.
Toxicity to algae/aquatic plants (Acute toxicity)	:	Remarks: LL/EL/IL50 > 100 mg/l

Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity)	:	Remarks: NOEC/NOEL > 100 mg/l
Toxicity to crustacean (Chronic toxicity)	:	Remarks: NOEC/NOEL expected to be > 10 - <= 100 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:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear) :

Toxicity to fish (Acute toxicity)	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to crustacean (Acute toxicity)	:	EL50 (Daphnia magna (Water flea)): > 1.000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to algae/aquatic plants (Acute toxicity)	:	EL50 (Pseudokirchneriella subcapitata (algae)): > 1.000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to microorganisms (Acute toxicity)	:	Remarks: Data not available
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean(Chronic toxicity)	:	Remarks: Data not available

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Major constituents are inherently biodegradable, but contains components that may persist in the environment., Based on available data, the classification criteria are not met., Not Persistent per IMO criteria., International Oil Pollution Compensation (IOPC) Fund definition: “A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340ºC (645ºF) and (b) at least 95% of which, by volume, distils at a temperature of 370ºC (700ºF)

when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear) :

Biodegradability	:	Biodegradation: 80 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Contains constituents with the potential to bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: > 5,5

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear) :

Bioaccumulation	:	Remarks: Has the potential to bioaccumulate.

12.4 Mobility in soil

Product:

Mobility	:	Remarks: Liquid under most environmental conditions., If it enters soil, it will adsorb to soil particles and will not be mobile.

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear) :

Mobility	:	Remarks: Floats on water., If it enters soil, it will adsorb to soil particles and will not be mobile.

12.5 Other adverse effects

Product:

Additional ecological information	:	Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential., Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal

conditions of use.
Films formed on water may affect oxygen transfer and damage organisms., Causes physical fouling of aquatic organisms.

Components:
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, < 2% aromatics (Alkanes, C12-15-branched and linear) :

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

13. Disposal considerations

13.1 Waste treatment 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. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.
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. Comply with any local recovery or waste disposal regulations. Do not pollute the soil, water or environment with the waste container.

14. Transport information

14.1 UN number or ID number

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.4 Packing group

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.5 Environmental hazards

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

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

MARPOL Annex 1 rules apply for bulk shipments by sea.

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.

DS 090 - 1996. Ministry of Economic Development and Reconstruction. DS 375 - 1985. Ministry of Economic Development and Reconstruction. DS 594 - 2000. Ministry of Health. DS 298 - 1995. Ministry of Transport and Telecommunications.

16. Other information

Full text of H-Statements

H304	May be fatal if swallowed and enters airways.

Full text of other abbreviations

Asp. Tox.	Aspiration 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.

Further information

Training advice	:	Provide adequate information, instruction and training for operators.
NFPA Rating (Health, Fire, Reactivity)		0, 2, 0
Other information	:	This product is intended for use in closed systems only. 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.