

Safety Data Sheet**SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product Identifier****Material Name** : Shell LNG 3**Product Code** : 002D3596**1.2 Relevant identified uses of the substance or mixture and uses advised against****Product Use** : Use only as a fuel.**Uses Advised Against** : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.**1.3 Details of the Supplier of the safety data sheet****Manufacturer/Supplier** : A/S Norske Shell
PO Box 1154 Sentrum
Drammensveien 134
N-0107 Oslo**Telephone** : (+47) 22665000**Fax** : (+47) 22665148**Email Contact for
Safety Data Sheet** : If you have any enquiries about the content of this SDS please
email fuelSDS@shell.com**1.4 Emergency Telephone Number**

: Giftinformasjonen: 22 59 13 00. Beredskapsvakt: 22 66 50 00.

Other Information : This product is exempt from the obligation to register under REACH in accordance with Article 2(7)(b).**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Regulation (EC) No 1272/2008 (CLP)	
Hazard classes / Hazard categories	Hazard Statement
Flammable gas., Category 1	H220

Safety Data Sheet

Refrigerated liquefied gas	H281
67/548/EEC or 1999/45/EC	
Hazard Characteristics	R-phrases(s)
	R12

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008

Hazard pictograms :



Signal Words : Danger

CLP Hazard Statements : PHYSICAL HAZARDS:
H220: Extremely flammable gas.
H281: Contains refrigerated gas; may cause cryogenic burns or injury.

HEALTH HAZARDS:
Not classified as a health hazard under CLP criteria.

ENVIRONMENTAL HAZARDS:
Not classified as environmental hazard according to CLP criteria.

CLP Precautionary statements

Prevention : P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P243: Take precautionary measures against static discharge.

Response : P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381: Eliminate all ignition sources if safe to do so.

Storage : P403: Store in a well-ventilated place.

Safety Data Sheet

2.3 Other Hazards

- Health Hazards** : High gas concentrations will displace available oxygen from the air; unconsciousness and death may occur suddenly from lack of oxygen.
Exposure to high gas/vapour concentrations may lead to narcotic or anaesthetic effects that may impair judgement or lead to central nervous system depression.
Exposure to rapidly expanding gases may cause frost burns to eyes and/or skin.
- Safety Hazards** : Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger. Under conditions of high temperatures and humidity, vapours may dilute and become buoyant. In general these diluted vapours will be dispersed at or below the Lower Flammability Limit. 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.
- Environmental Hazards** : Not classified as dangerous for the environment.
- Other Information** : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

- Mixture Description** : Complex mixture of hydrocarbons, predominantly methane with some other lower alkanes. It may also contain trace amounts of mercury (unlikely) and different sulphur compounds.
Product is not a mixture according to regulation 1907/2006/EC.

Hazardous Components

Classification of components according to Regulation (EC) No 1272/2008

Safety Data Sheet

Chemical Name	CAS No.	EC Number	REACH Registration No.	Conc.
Liquefied Natural Gas	8006-14-2	232-343-9	Exempt	>= 99,00%
CONTAINS:	.	.	.	%
Methane	74-82-8	200-812-7	Not available / Not applicable.	80,00 - 100,00%
Ethane	74-84-0	200-814-8	01-2119486765-21	0,00 - 10,00%
Propane	74-98-6	200-827-9	Exempt	0,00 - 4,00%
Butane	106-97-8	203-448-7	Exempt	0,00 - 2,00%

Chemical Name	Hazard Class & Category	Hazard Statement
Liquefied Natural Gas	Flam. Gas, 1; Refrig. Liq. Gas, Refrig. Liq. Gas;	H220; H281;
CONTAINS:		
Methane	Flam. Gas, 1; Press. Gas, ;	H220; H280;
Ethane	Flam. Gas, 1; Press. Gas, ;	H220; H280;
Propane	Flam. Gas, 1;	H220;
Butane	Flam. Gas, 1;	H220;

Classification of components according to 67/548/EEC

Chemical Name	CAS No.	EC Number	REACH Registration No.	Symbol(s)	R-phrases	Conc.
Liquefied Natural Gas	8006-14-2	232-343-9	Exempt	F+	R12	>= 99,00%
CONTAINS:	.	.	.			%
Methane	74-82-8	200-812-7	Not available / Not applicable.	F+	R12	80,00 - 100,00%
Ethane	74-84-0	200-814-8	01-2119486765-21	F+	R12	0,00 - 10,00%
Propane	74-98-6	200-827-9	Exempt	F+	R12	0,00 - 4,00%
Butane	106-97-8	203-448-7	Exempt	F+	R12	0,00 - 2,00%

Additional Information : Refer to Ch 16 for full text of R- and H- phrases.

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Safety Data Sheet

SECTION 4. FIRST-AID MEASURES

4.1 Description of First Aid Measures

- Inhalation** : Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardiopulmonary Resuscitation (CPR) as required and transport to the nearest medical facility. In the unlikely event of dizziness or nausea, remove casualty to fresh air.
- Skin Contact** : Do not remove clothing that adheres to skin due to freezing. In the event of frostbite, slowly warm the exposed area by rinsing with warm water. Otherwise: Obtain medical treatment immediately. Loosen tight clothing. Keep warm and at rest.
- Eye Contact** : If persistent irritation occurs, obtain medical attention. Cold product - All burns should receive medical attention.
- Ingestion** : In the unlikely event of ingestion, obtain medical attention immediately.
- Self-protection of the first aider** : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
- 4.2 Most important symptoms and effects, both acute and delayed** : High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued exposure may result in unconsciousness and/or death.
- 4.3 Indication of any immediate medical attention and special treatment needed** : Treat symptomatically.
Administer oxygen if necessary.

SECTION 5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

- 5.1 Extinguishing Media** : Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out.
- Unsuitable Extinguishing Media** : Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire.
- 5.2 Special hazards arising from the substance or mixture** : Forms flammable mixture with air. If released, the resulting vapours will disperse with the prevailing wind. If a source of ignition is present where the vapour exists at 5-15% concentration in air, the vapour will burn along the flame front

Safety Data Sheet

- toward the source of the fuel. Under conditions of high temperatures and humidity, vapours may dilute and become buoyant. In general these diluted vapours will be dispersed at or below the Lower Flammability Limit.
- 5.3 Advice for firefighters** : Wear full protective clothing and self-contained breathing apparatus.
- Additional Advice** : Keep storage tanks, pipelines, fire exposed surfaces cool with water delivered as a fine spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. Do not attempt to do so if clothing is adhering to skin. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.

- 6.1 Personal Precautions, Protective Equipment and Emergency Procedures** :
- 6.1.1 For non emergency personnel: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas 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. Monitor area with combustible gas meter.
 - 6.1.2 For emergency responders: Attempt to disperse vapour or to direct its flow to a safe location for example using fog sprays. Take precautionary measures against static discharges.
- 6.2 Environmental Precautions** : Use appropriate containment to avoid environmental contamination.
- 6.3 Methods and Material for Containment and Cleaning Up** : Take precautionary measures against static discharges. Allow to evaporate. Attempt to disperse the gas or to direct its flow to a safe location, for example by using fog sprays.
- Additional Advice** : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
- 6.4 Reference to other sections** : For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

- General Precautions** : Avoid breathing vapours or contact with material. Only use in

Safety Data Sheet

well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material 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. Air-dry contaminated clothing in a well-ventilated area before laundering. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

7.1 Precautions for Safe Handling

: This product can create a low temperature exposure hazard when released as a liquid. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Earth all equipment. 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.

Product Transfer

: Earth all equipment. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Delivery lines may become cold enough to present a cold burns hazard. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge.

7.2 Conditions for safe storage, including any incompatibilities

: Keep away from sources of ignition - No smoking. Keep container tightly closed and in a cool, well-ventilated place. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. These include issuing of work permits, gas-freeing of tanks, using a manned harness and lifelines and wearing air-supplied breathing apparatus. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. Prior to entry and whilst cleaning is underway, the atmosphere within the tank must be monitored using an oxygen meter and explosimeter. 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.

Recommended Materials

: For containers or container linings, use stainless steel. For lines and fittings, use mild steel, stainless steel.

Safety Data Sheet

- Unsuitable Materials** : Elastomers (gaskets, seals): Natural rubber (NR). Nitrile rubber (NBR), Ethylene propylene rubber (EPDM), Butyl rubber (IIR), Chlorosulphonated polyethylene (CSM), Styrene butadiene rubber (SBR), Neoprene rubber (CR). PVC.
- 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.
- 7.3 Specific end use(s)** : See additional references that provide safe handling practices: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).
- Additional Information** : This product is intended for use in closed systems only. Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

8.1 Control Parameters**Occupational Exposure Limits**

Material	Source	Type	ppm	mg/m3	Notation
Methane	ACGIH	TWA	1.000 ppm		
Ethane	ACGIH				Included in the regulation but with no data values. See regulation for further details
Propane	ELV (NO)	NORMEN	500 ppm	900 mg/m3	

Safety Data Sheet

	ACGIH				Included in the regulation but with no data values. See regulation for further details
Butane	ELV (NO)	NORMEN	250 ppm	600 mg/m3	
	ACGIH	STEL	1.000 ppm		

Biological Exposure Index (BEI)

No biological limit allocated.

Derived No Effect Levels (DNEL/DMEL) Table : Not applicable

PNEC related information : Exposure assessments have not been presented for the environment therefore PNEC values not required.

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/>

8.2 Exposure Controls
General Information

: Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

The level of protection and types of controls necessary will vary

Safety Data Sheet

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. Exhaust emission systems should be designed in accordance with local conditions; the air should always be moved away from the source of vapour generation and the person working at this point. Firewater monitors and deluge systems are recommended. 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.

Occupational Exposure Controls

- | | | |
|--------------------------------------|---|---|
| Personal Protective Equipment | : | Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers. The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards. |
| Eye Protection | : | Chemical splash goggles (gas-tight monogoggles) and face shield with chin guard. Approved to EU Standard EN166. |
| Hand Protection | : | 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. 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. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from |

Safety Data Sheet

the following materials may provide suitable chemical protection: Neoprene rubber. Nitrile rubber. If contact with liquefied product is possible or anticipated, gloves should be thermally insulated to prevent cold burns. 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 recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be 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.

Body protection : Chemical and cold resistant gloves/gauntlets, boots, and apron.

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 organic gases and vapors [Type AX boiling point < 65°C (149°F)] meeting EN14387.

Thermal Hazards : When handling cold material that can cause frost burns, wear heat resistant gloves, safety hat and visor, cold resistant overalls (with cuffs over gloves and legs over boots) and heavy duty boots e.g. leather for cold resistance.

Environmental Exposure Controls

Environmental exposure control measures : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Information on accidental release measures are to be found in section 6. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Take appropriate measures to fulfil the requirements of

Safety Data Sheet

relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance	: Colourless. Refrigerated liquefied gas
Odour	: Odourless.
Odour threshold	: Data not available
pH	: Not applicable.
Initial Boiling Point and Boiling Range	: Typical -161,5 °C / -258,7 °F
Freezing Point	: Data not available
Flash point	: Typical -187 °C / -305 °F
Upper / lower Flammability or Explosion limits	: Typical 5 - 15 %(V)
Auto-ignition temperature	: 537 °C / 999 °F
Vapour pressure	: Data not available
Density	: 420 - 480 kg/m ³ at -165,5 °C / -265,9 °F Liquid methane at boiling point.
Water solubility	: 0,08 g/l at 25 °C / 77 °F
Solubility in other solvents	: Data not available
n-octanol/water partition coefficient (log Pow)	: Data not available
Dynamic viscosity	: Data not available
Kinematic viscosity	: Not applicable.
Vapour density (air=1)	: Typical 0,58
Evaporation rate (nBuAc=1)	: Data not available
Flammability	: Flammable Gas
Oxidizing Properties	: Not applicable.
Explosive Properties	: Not classified

9.2 Other Information

Electrical conductivity	: Low conductivity: < 100 pS/m
Other Information	: Not applicable.

Safety Data Sheet

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Release of LNG into water may cause explosive boiling due to rapid phase transition (liquid to gas).
10.2 Chemical stability	: Stable under normal conditions of use.
10.3 Possibility of Hazardous Reactions	: Release of LNG into water may cause explosive boiling due to rapid phase transition (liquid to gas).
10.4 Conditions to Avoid	: Heat, flames, and sparks. May form explosive mixture on contact with air.
10.5 Incompatible Materials	: Strong oxidising agents.
10.6 Hazardous Decomposition Products	: Hazardous decomposition products are not expected to form during normal storage.
Other Information	
Hazardous Polymerisation	: No, hazardous, exothermic polymerization cannot occur.
Sensitivity to Mechanical Impact	: No, product will not become self-reactive.
Sensitivity to Static Discharge	: Yes, in certain circumstances product can ignite due to static electricity.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects

Basis for Assessment	: Information given is based on product testing.
Likely Routes of Exposure	: Inhalation is the primary route of exposure although exposure may occur through skin or eye contact.
Acute Oral Toxicity	: Not applicable.
Acute Dermal Toxicity	: Not applicable.
Acute Inhalation Toxicity	: Expected to be of low toxicity if inhaled.
Skin corrosion/irritation	: Expected to be non-irritating to skin.
Serious eye damage/irritation	: Essentially non-irritating to eyes.
Respiratory Irritation	: Inhalation of vapours or mists may cause irritation to the respiratory system.
Respiratory or skin sensitisation	: Not expected to be a sensitiser.
Aspiration Hazard	: Not considered an aspiration hazard.

Safety Data Sheet

Germ cell mutagenicity : Not considered a mutagenic hazard.

Carcinogenicity : Not expected to be carcinogenic.

Methane	:	GHS / CLP: No carcinogenicity classification
Ethane	:	GHS / CLP: No carcinogenicity classification
Propane	:	GHS / CLP: No carcinogenicity classification
Butane	:	GHS / CLP: No carcinogenicity classification
Liquefied Natural Gas	:	GHS / CLP: No carcinogenicity classification

Reproductive and Developmental Toxicity : Not expected to impair fertility. Not a developmental toxicant.

Summary on evaluation of the CMR properties

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

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

Reproductive Toxicity (fertility) : This product does not meet the criteria for classification in categories 1A/1B.

Specific target organ toxicity - single exposure : High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Specific target organ toxicity - repeated exposure : Low systemic toxicity on repeated exposure.

Additional Information : Rapid release of gases which are liquids under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling. High gas concentrations will displace available oxygen from the air; unconsciousness and death may occur suddenly from lack of oxygen.

SECTION 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).

12.1 Toxicity
Acute Toxicity : Physical properties indicate that hydrocarbon gases will rapidly volatilise from the aquatic environment and that acute and

Safety Data Sheet

	chronic effects would not be observed in practice.
Fish	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Aquatic crustacea	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Algae/aquatic plants	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Microorganisms	: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity	
Fish	: Data not available
Aquatic crustacea	: Data not available
12.2 Persistence and degradability	: Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.
12.3 Bioaccumulative Potential	: Not expected to bioaccumulate significantly.
12.4 Mobility in Soil	: Because of their extreme volatility, air is the only environmental compartment that hydrocarbon gases will be found.
12.5 Result of PBT and vPvB assesment	: 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	: In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Material Disposal	: Do not discharge into areas where there is a risk of forming an explosive mixture with air.
Container Disposal	: In commercial premises empty containers should be disposed of to a recognised waste contractor. Do not pierce or burn empty containers.
Local Legislation	: 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 in compliance. Classification of waste is always the responsibility of the end user.

Safety Data Sheet

SECTION 14. TRANSPORT INFORMATION**Land transport (ADR/RID):****ADR**

- 14.1 UN number : 1972
14.2 UN proper shipping name : NATURAL GAS, REFRIGERATED LIQUID
14.3 Transport hazard class(es) : 2
14.4 Packing group : Not applicable.
Danger label (primary risk) : 2.1
14.5 Environmental hazards : No
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

RID

- 14.1 UN number : 1972
14.2 UN proper shipping name : NATURAL GAS, REFRIGERATED LIQUID
14.3 Transport hazard class(es) : 2
14.4 Packing group : Not applicable.
Danger label (primary risk) : 2.1
14.5 Environmental hazards : No
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Sea transport (IMDG Code):

- 14.1 UN number : UN 1972
14.2 UN proper shipping name : NATURAL GAS, REFRIGERATED LIQUID
14.3 Transport hazard class(es) : 2.1
14.4 Packing group : Not applicable.
14.5 Environmental hazards : No
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Safety Data Sheet

Air transport (IATA):

- 14.1 UN number : 1972
14.2 UN proper shipping name : Natural gas, refrigerated liquid
14.3 Transport hazard class(es) : 2.1
14.4 Packing group : Not applicable.
14.6 Special precautions for user : Special Precautions: Refer to Chapter 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 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Pollution Category : Not applicable.
Ship Type : Not applicable.
Product Name : Not applicable.
Special Precaution : Not applicable.

Additional Information : IATA - Forbidden for transport on passenger and cargo aircraft.

SECTION 15. REGULATORY INFORMATION

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

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

Other regulatory Information

Recommended Restrictions on Use (Advice Against) : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

Chemical Inventory Status

EINECS : All components listed or polymer exempt.

Other Information : Norwegian list of Dangerous Substances. Regulations relating to the classification, labelling etc. of dangerous chemicals.
Regulations relating to the recycling of waste (Waste

Safety Data Sheet**15.2 Chemical Safety Assessment**

Regulations) Norwegian OEL-list. Regulations relating to the compilation and distribution of safety data sheets for dangerous chemicals.

: A Chemical Safety Assessment was not performed for this substance, as this substance was not required to be registered under REACH.

SECTION 16. OTHER INFORMATION**R-phrases(s)**

R12 Extremely flammable.

CLP Hazard Statements

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H281 Contains refrigerated gas; may cause cryogenic burns or injury.

Additional Information : This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

Other Information

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

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.

Flam. Gas = Flammable gas.

Press. Gas = Gases under pressure

Liq. Gas = Liquefied gas

ACGIH = American Conference of Governmental Industrial Hygienists

ADR = European Agreement concerning the International

Safety Data Sheet

Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut für Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology
Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial
Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances
Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and
Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the
determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of
Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No
Observed Effect Level
OE_HP V = Occupational Exposure - High Production Volume

Safety Data Sheet

PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

- Key literature references and sources for data** : 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).
- SDS Distribution** : The information in this document should be made available to all who may handle the product.
- SDS Version Number** : 1.0
- SDS Effective Date** : 31.03.2014
- SDS Revisions** : A vertical bar (|) in the left margin indicates an amendment from the previous version.
- SDS Regulation** : Regulation 1907/2006/EC as amended by Regulation (EU) 453/2010
- Disclaimer** : 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.