

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

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

1.1 Product identifier

Trade name : Natural Gas, Dried
CAS-No. : 68410-63-9

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

Use of the Substance/Mixture : Fuel, Raw material for industry
This product is exempt from the obligation to register under REACH in accordance with Article 2(7).

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.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : **Shell Energy Italia S.R.L**
Via Vittor Pisani 16
I-20124 Milano
Telephone : (+39) 0261101
Telefax : (+39) 0261103411
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 : (+39) 02 3800.4461/2 (available 24h a day)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable gases, Category 1A H220: Extremely flammable gas.
Gases under pressure, Compressed gas H280: Contains gas under pressure; may explode if heated.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Signal word	:	Danger	
Hazard statements	:	H220 H280	PHYSICAL HAZARDS: Extremely flammable gas. Contains gas under pressure; may explode if heated. HEALTH HAZARDS: Not classified as a health hazard under CLP criteria. ENVIRONMENTAL HAZARDS: Not classified as environmental hazard according to CLP criteria.
Precautionary statements	:	Prevention: P210 P243 Response: P377 P381 Storage: P410 + P403 Disposal:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Protect from sunlight. Store in a well-ventilated place. No precautionary phrases.

2.3 Other hazards

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

Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.

High gas concentrations will displace available air; unconsciousness and death may occur suddenly from lack of oxygen.

Exposure to rapidly expanding gases may cause frost burns to eyes and/or skin.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature : Product is not a mixture according to regulation

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

1907/2006/EC.

Hazardous components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Natural gas, dried	68410-63-9 270-085-9	<= 100

Further information

Contains:

Chemical name	Identification number	Classification	Concentration (% w/w)
methane	74-82-8, 200-812-7	Flam. Gas1; H220 Press. GasCompr. Gas; H280	- <= 95
ethane	74-84-0, 200-814-8	Flam. Gas1; H220 Press. GasCompr. Gas; H280	- <= 10
propane	74-98-6, 200-827-9	Flam. Gas1; H220 Press. GasLiquefied gas; H280	- <= 5
butane	106-97-8, 203-448-7	Flam. Gas1; H220 Press. Gas	- <= 1
pentane	109-66-0, 203-692-4	Flam. Liq.1; H224 Asp. Tox.1; H304 STOT SE3; H336 Aquatic Chronic2; H411 EUH066	- <= 1
Nitrogen	7727-37-9, 231-783-9	Press. GasCompr. Gas; H280	- <= 1
Carbon dioxide	124-38-9, 204-696-9	Press. GasCompr. Gas; H280	- <= 1

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Not expected to be a health hazard when used under normal conditions.
- Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

- If inhaled : Call emergency number for your location / facility.
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 Cardio-Pulmonary Resuscitation as required and transport to the nearest medical facility.
- In case of skin contact : In the event of frostbite, slowly warm the exposed area by rinsing with warm water.
Seek medical advice.
Transport to the nearest medical facility for additional treatment.
- 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.
- In the event of frostbite, slowly warm the exposed area by rinsing with warm water.
Transport to the nearest medical facility for additional treatment.
- If swallowed : In the unlikely event of ingestion, obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : High gas concentrations will displace available air; unconsciousness and death may occur suddenly from lack of oxygen.
Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination.
Continued inhalation may result in unconsciousness and death.
Rapid release of gases which are liquids under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!
Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider: oxygen therapy.
Call a doctor or poison control center for guidance.
Treat symptomatically.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out., Dry chemical, Carbon dioxide (CO₂), Keep containers and surroundings cool with water spray., Large fires should only be fought by properly trained fire fighters.
- 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., Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Hazardous combustion products may include: Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds. Contents are under pressure and can explode when exposed to heat or flames. Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapor Explosion (BLEVE). The vapour is heavier than air, spreads along the ground and distant ignition is possible.

5.3 Advice for firefighters

- Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Clear fire area of all non-emergency personnel. Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : 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

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter.

Vapour may form an explosive mixture with air.

6.1.2 For emergency responders:

Test atmosphere for flammable gas concentrations to ensure safe working conditions before personnel are allowed to enter the area.

6.2 Environmental precautions

Environmental precautions : Use appropriate containment to avoid environmental contamination.
Risk of explosion. Inform the emergency services if product enters surface water drains.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Allow to evaporate.
Attempt to disperse the gas or to direct its flow to a safe location, for example by using fog sprays.
Avoid contact with skin, eyes and clothing.
Evacuate the area of all non-essential personnel.
Ventilate contaminated area thoroughly.
If contamination of site occurs remediation may require specialist advice.
Take precautionary measures against static discharges.
Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Observe all relevant local and international regulations.

6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.,
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.,
For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet., Vapour may form an explosive mixture with air., Risk of explosion. Inform the emergency services if product enters surface water drains.

SECTION 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.
Air-dry contaminated clothing in a well-ventilated area before

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

laundering.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Take precautionary measures against static discharges.

7.1 Precautions for safe handling

- Advice on safe handling : Ensure that all local regulations regarding handling and storage facilities are followed.
This product is intended for use in closed systems only.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Avoid prolonged or repeated contact with skin.
Electrostatic charges may be generated during pumping.
Electrostatic discharge may cause fire.
Earth all equipment.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
- Product Transfer : Refer to guidance under Handling section. Do not use compressed air for filling discharge or handling. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

7.2 Conditions for safe storage, including any incompatibilities

- Other data : Store only in purpose-designed, appropriately labelled pressure vessels or cylinders. Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat. Do not store near cylinders containing compressed oxygen or other strong oxidizers. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
- Packaging material : Suitable material: For containers and container linings, use materials specifically approved for use with this product., Examples of suitable materials are: PA-11, PEEK, PVDF, PTFE, GRE (Epoxy), GRVE (vinyl ester), Viton (FKM), type F and GB, Neoprene (CR).
Unsuitable material: Some forms of cast iron., Examples of materials to avoid are: ABS, polymethyl methacrylate (PMMA), polyethylene (PE / HDPE), polypropylene (PP), PVC, natural rubber (NR), Nitrile (NBR) ethylene propylene rubber (EPDM), Butyl (IIR), Hypalon (CSM), polystyrene, polyvinyl chloride (PVC), polyisobutylene., For containers and container linings, aluminium should not be used if there is a risk of caustic contamination of the product.
- 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.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

7.3 Specific end use(s)

Specific use(s) : See additional references that provide safe handling practices for liquids that are determined to be static accumulators: 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).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
pentane	109-66-0	TWA	667 ppm 2.000 mg/m ³	IT OEL
pentane	109-66-0	TWA	1.000 ppm 3.000 mg/m ³	2006/15/EC
Further information	Indicative			
Carbon dioxide	124-38-9	TWA	5.000 ppm 9.000 mg/m ³	IT OEL
Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis

Biological occupational exposure limits

No biological limit allocated.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Not applicable

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

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

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods

<http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods

<http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances

<http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany

<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

8.2 Exposure controls

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 subsequent recycle.

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 : Wear goggles for use against liquids and gas, combined with face shield with chin guard.

Approved to EU Standard EN166.

Hand protection

Remarks : Where hand contact with the product may occur the use of

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Neoprene rubber. Nitrile rubber.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

- Skin and body protection : 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 vapours [Type AX boiling point < 65°C (149°F)] meeting EN14387.
- Thermal hazards : When handling cold material that can cause frost burns, wear cryogenic 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.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

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.
Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Section 6.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : gaseous, Compressed gas

Colour : colourless

Odour : Typical gas smell due to addition of odouriser to allow the detection of product leaks.

Odour Threshold : Data not available

pH : Not applicable

Melting point/freezing point : Data not available

Initial boiling point and boiling range : -195 - -155 °C

Flash point : -187 °C

Evaporation rate : Data not available

Flammability (solid, gas) : Flammable gas.

Upper explosion limit : $\leq 17 \%$ (V)

Lower explosion limit : $\geq 4 \%$ (V)

Vapour pressure : Data not available

Relative vapour density : Data not available

Relative density : $\geq 0,54$

Density : 0,7 - 1 kg/m³

Solubility(ies)

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Water solubility : 0,03 - 0,08 g/l (25 °C)

Solubility in other solvents : Data not available

Partition coefficient: n-octanol/water : Pow: Typical 0,28

Auto-ignition temperature : 575 °C

Decomposition temperature : Data not available

Viscosity

Viscosity, kinematic : Data not available

Explosive properties : no data available

Oxidizing properties : Data not available

9.2 Other information

Conductivity : This material is not expected to be a static accumulator.

SECTION 10: Stability and reactivity

10.1 Reactivity

No, product will not become self-reactive.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Hazardous reactions : No. Hazardous, exothermical polymerization cannot occur.

10.4 Conditions to avoid

Conditions to avoid : Heat, open flames, sparks and flammable atmospheres.

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

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Basis for assessment : Information given is based on product testing.
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 : Inhalation is the primary route of exposure although exposure may occur through skin or eye contact.

Acute toxicity

Product:

- Acute oral toxicity :
Remarks: Not applicable
- Acute inhalation toxicity : LC 50 Rat: > 20000 ppmV
Exposure time: 4 h
Remarks: Low toxicity by inhalation.
Based on available data, the classification criteria are not met.
- Acute dermal toxicity :
Remarks: Not applicable

Skin corrosion/irritation

Product:

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

Serious eye damage/eye irritation

Product:

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

Respiratory or skin sensitisation

Product:

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

Germ cell mutagenicity

Product:

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

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Carcinogenicity

Product:

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

Material	GHS/CLP Carcinogenicity Classification
Natural gas, dried	No carcinogenicity classification.
methane	No carcinogenicity classification.
ethane	No carcinogenicity classification.
propane	No carcinogenicity classification.
butane	No carcinogenicity classification.
pentane	No carcinogenicity classification.
Nitrogen	No carcinogenicity classification.
Carbon dioxide	No carcinogenicity classification.

Reproductive toxicity

Product:

:

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

STOT - single exposure

Product:

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.

STOT - repeated exposure

Product:

Remarks: Low systemic toxicity on repeated exposure., Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Not an aspiration hazard.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Further information

Product:

Remarks: 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 air; unconsciousness and death may occur suddenly from lack of oxygen., Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

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

Summary on evaluation of the CMR properties

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

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

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

SECTION 12: Ecological information

12.1 Toxicity

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). Physical properties indicate that petroleum gases will rapidly volatilise from the aquatic environment and that acute and chronic effects would not be observed in practice.

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.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean (Chronic toxicity)	:	Remarks: Data not available
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.

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Oxidises rapidly by photo-chemical reactions in air., Readily biodegradable., 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 340°C (645°F) and (b) at least 95% of which, by volume, distills at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."
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12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Does not bioaccumulate significantly.
Partition coefficient: n-octanol/water	:	Pow: Typical 0,28

12.4 Mobility in soil

Product:

Mobility	:	Remarks: Because of their extreme volatility, air is the only environmental compartment that hydrocarbon gases will be found.
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12.5 Results of PBT and vPvB assessment

Product:

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

Product:

Additional ecological information	:	In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.
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SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : 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. 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. Do not dispose into the environment, in drains or in water courses. Given the nature and uses of this product, the need for disposal seldom arises. If necessary, dispose by controlled combustion in purpose-designed equipment. If this is not possible, contact the supplier. 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 pollute the soil, water or environment with the waste container. Return part-used or empty cylinders to the supplier. For tanks seek specialist advice from suppliers. Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local legislation
- Remarks : 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.
- EU Waste Disposal Code (EWC):
16 05 04 gases in pressure containers (including halons) containing dangerous substances.

SECTION 14: Transport information

14.1 UN number

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

ADN : 1971
ADR : 1971
RID : 1971
IMDG : 1971
IATA : 1971

14.2 Proper shipping name

ADN : NATURAL GAS, COMPRESSED
ADR : NATURAL GAS, COMPRESSED
RID : NATURAL GAS, COMPRESSED
IMDG : NATURAL GAS, COMPRESSED

IATA : NATURAL GAS, COMPRESSED

14.3 Transport hazard class

ADN : 2
ADR : 2
RID : 2
IMDG : 2.1
IATA : 2.1

14.4 Packing group

ADN
Packing group : Not Assigned
Classification Code : 1F
Labels : 2.1

ADR
Packing group : Not Assigned
Classification Code : 1F
Hazard Identification Number : 23
Labels : 2.1

RID
Packing group : Not Assigned
Classification Code : 1F
Hazard Identification Number : 23
Labels : 2.1

IMDG
Packing group : Not Assigned
Labels : 2.1

IATA
Packing group : Not Assigned
Labels : 2.1

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

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 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15: Regulatory information

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

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

18 Liquefied extremely flammable gases (including LPG) and natural gas

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

Classification, packaging and labelling of dangerous substances (D.Lgs.52/1997 and subsequent amendments).
Classification, packaging and labelling of dangerous preparations (D.Lgs.65/2003). Safeguard of health and safety in the workplaces (D.Lgs.81/2008 and subsequent amendments).

Seveso category (Dir. 96/82/CE e Dir. 105/2003/CE e D.Lgs. 334/99 e s.m.i.): annex I part 1.
For waste disposal refer to D.Lgs.152/06 and subsequent amendments.

Product is subject to Decreto Legislativo 26 Giugno 2015, N°105 covering among others the requirements of the Seveso III directive (2012/18/EU).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.

Directive 1994/33/EC on the protection of young people at work and its amendments.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Full text of H-Statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Flam. Gas	Flammable gases
Flam. Liq.	Flammable liquids
Press. Gas	Gases under pressure
STOT SE	Specific target organ toxicity - single exposure
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.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International 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

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

Revision Date 23.03.2021

Print Date 09.04.2021

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
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

Further information

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.

SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

Natural Gas, Dried

Version 1.4

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