

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

### 1.1 Product identifier

Name	<b>Natural gas</b> the data sheet covers natural gas in transmission and distribution networks as well as CNG
Name of substance	Natural gas
CAS number	8006-14-2
EC number	232-343-9

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

Application	It is mainly used as a fuel for heating purposes in domestic and industrial installations, as an energy source in the production of electricity and as a fuel for automotive internal combustion engines. Gas-powered means of transport are also becoming increasingly popular. Natural gas is used in the production of ammonia and fertilisers, in the production of hydrogen, as well as glass, steel or plastics.
-------------	---

Scope of application Product available for professional use or as vehicle fuel.

### 1.3 Details of the supplier of the safety data sheet

Name	ORLEN Spółka Akcyjna – Oddział Centralny Polskie Górnictwo Naftowe i Gazownictwo w Warszawie
Address	M. Kasprzaka Street 25, 01-224 Warsaw
Telephone number	(22) 106 82 08
E-mail address	clpb@pgnig.pl

### 1.4 Emergency telephone number

112 - General emergency telephone number

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

H220 - Extremely flammable gas,

H280 - Contains gas under pressure, may explode if heated (Gases under pressure: compressed gas, liquefied gas, dissolved gas).

### 2.2 Label elements

Substance requires labelling according to Regulation (EC) No 1907/2006

Hazard pictograms and signal word: GHS02, GSH04



Signal word: Danger

#### Hazard statements

**H220** Extremely flammable gas.

**H280** Contains gas under pressure; may explode if heated.

#### Precautionary statements

**P210** Keep away from heat sources, hot surfaces, sources of ignition, open flame and other sources of ignition. Do not smoke.

**P377** If leaking gas is on fire: Do not extinguish if leak cannot be stopped safely.

## SECTION 2: Hazards identification

**P381** Eliminate all ignition sources if safe to do so.

**P403** Store in a well-ventilated place.

### 2.3. Other risks

- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH Regulation.
- The substance is not assessed as having endocrine disrupting properties.
- Natural gas forms flammable and explosive mixtures with air (see section 9 for approximate gas explosion limits), is lighter than air, and accumulates in upper areas.
- The gas has a suffocating effect on humans by displacing oxygen from the air. Too little oxygen in the air can lead to unconsciousness and death (see section 11).
- When natural gas escapes through the soil, it displaces oxygen and destroys the vegetation cover.
- It is an aggressive greenhouse gas.
- The rapidly expanding gas causes a significant drop in temperature and can cause thermal damage to the skin and eyes.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Trade name Natural gas  
CAS number 8006-14-2  
EC number 232-343-9  
Index number -  
Competent registration number: Substance not subject to registration number:

Natural gas is a multi-component substance of variable composition. It is a complex gaseous hydrocarbon mixture consisting mainly of methane, generally also containing ethane, propane and, in much lower concentrations, higher hydrocarbons (individual groups C5, C6, C7, C8, etc. <0.1 per cent by volume) and some non-flammable gases such as nitrogen, carbon dioxide and possibly helium. The benzene content is trace, with a maximum of 0.0012% by volume. It does not contain buta-1,3-diene. It may contain other impurities in trace amounts (mercury, hydrogen sulphide).

Component	CAS	Concentration [%mol]
methane	74-82-8	60-99
ethane	74-84-0	0-8
propane	74-98-6	0-4
butans	106-97-8	0-1
pentans	109-66-0	0-1
hexanes	110-54-3	0-1
carbon dioxide	124-38-9	0-3
Nitrogen	7727-37-9	0-60

### 3.2 Mixtures

Not applicable - the product is a substance.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### Inhalation exposure

Remove or carry victim from place of escape to fresh air. If respiratory distress occurs apply artificial respiration and call a doctor immediately. If other problems occur (e.g., headache, dizziness), call a doctor. In both cases, suitably trained persons should give the victim oxygen. Keep the affected person warm and provide conditions for rest.

#### Skin contact

Not applicable.

---

## SECTION 4: First aid measures

---

### Eye contact

In case of irritation, protect eyes from light and ensure that the victim consults an ophthalmologist. In case of eye damage from rapidly expanding gas, apply a sterile dressing and consult an ophthalmologist immediately - provide the affected person with specialist medical assistance.

### Exposure through the digestive tract

Not applicable

### 4.2. Most important symptoms and effects, both acute and delayed, of exposure

The gas has an asphyxiating effect, with inhalation exposure may cause drowsiness, a feeling of shortness of breath, difficulty breathing, headaches and dizziness, with high concentrations of the gas disorientation, vomiting, loss of consciousness. Rapidly expanding gas causes a significant drop in temperature and can cause thermal damage to the skin and eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed

**CAUTION:** Place unconscious patient in side-lying position, keep poisoned person calm, protect from loss of heat, control breathing and pulse. Never induce vomiting or give anything by mouth to an unconscious or intoxicated person.

If any worrying symptoms occur, call a doctor immediately or take the victim to hospital. First aiders must be equipped with personal protective equipment (depending on the scale of the hazard).

---

## SECTION 5: Firefighting measures

---

### 5.1 Extinguishing agents

**Suitable extinguishing media:** extinguishing powders, carbon dioxide, extinguishing foams, water - dispersed currents.

**Unsuitable extinguishing media:** None.

### 5.2. Special hazards arising from the substance or mixture

The gas forms explosive mixtures with air. It is lighter than air and accumulates in the upper part of rooms. Ignition or explosion can cause sparks / static electricity discharges. Tanks and installations exposed to fire or high temperatures may explode. Burns with a bright flame, emits carbon dioxide.

In a fire environment, toxic gases and fumes containing carbon monoxide are emitted.

### 5.3 Information for the fire brigade

Close the gas supply. Cool the installation containing the gas with water from a safe distance. Fight the fire from behind explosion protection covers.

In case of ignition of leaking gas: do not extinguish if leak cannot be stopped safely. Control the combustion process to prevent explosion and excessive heat radiation effects on nearby infrastructure.

**Special protective equipment for firefighters:** gas-tight anti-electrostatic clothing, gloves and boots, safety goggles, breathing apparatus with independent air source.

---

## SECTION 6: Accidental release measures

---

### 6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition, extinguish fire, switch off equipment likely to cause sparks, do not smoke. Remove unauthorised and unauthorised persons and animals from the spill area, place them in a safe, well-ventilated place. Mark the area with warning signs. Have trained personnel equipped with personal protective equipment to deal with the consequences of the accident. Ensure adequate ventilation. Do not inhale gas or thermal decomposition products. Avoid direct contact with released product.

**CAUTION:** The gas forms flammable and explosive mixtures with air. It is lighter than air and accumulates in the upper part of rooms. Ignition or explosion can be caused by sparks, for example.

### 6.2. Environmental precautions

In the event of a release of large quantities of product or environmental contamination, notify the relevant authorities and chemical emergency services.

### 6.3. Methods and material for containment and cleaning up

If possible, stop leak (shut off gas supply). Disposal by controlled incineration. Ensure sufficient ventilation of the spill area.

## SECTION 6: Accidental release measures

### 6.4 References to other sections

Personal protective equipment - see section 8

Dispose of waste as recommended in section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

When handling the product, apply the general rules of hygiene and health and safety and observe the precautions applicable to all work with compressed gases (see section 15).

Before starting work, familiarise yourself with the special precautions and hazardous properties of the substance, including the principles of fire and first aid.

Be careful with any manipulation (depressurisation, disconnection of lines), check valves and hoses for filling/ emptying containers. Use recommended personal protective equipment. Avoid release of gas to the environment.

Do not use sparking equipment or tools. Protect process installations, tank from the possibility of static electricity discharge (earthing, bridging). Do not use open fire. Do not inhale the product. It is absolutely forbidden to smoke and use electric cigarettes while working with the product, except for the places designated for this purpose. Ventilation and electrical installations must comply with the conditions established due to the danger of fire and explosion.

Use protective clothing and recommended anti-electrostatic personal protective equipment. Workers carrying out gas hazardous or fire hazardous work should be provided with protective clothing with anti-electrostatic and flame retardant properties.

### 7.2 Conditions for safe storage, including any incompatibilities:

Store in tightly closed containers, in well-ventilated, closed and labelled places, away from sources of heat and other flammable substances (see section 15), protect from unauthorised access, protect cylinders/tanks/installations from mechanical damage and heating (heat sources, sunlight). Cylinders should be stored in an upright position. Storage rooms, halls should be equipped with a stationary explosimetric system activating emergency ventilation in the event of a gas release into the atmosphere. Storage rooms must be equipped with fire-fighting equipment in accordance with the fire safety instructions.

**7.3 Specific end use(s):** No information on uses other than those listed in subsection 1.2.

## SECTION 8: Exposure controls/personal protective equipment

### 8.1 Control parameters

**National limit values, including the legal basis (see Section 15)**

#### National occupational exposure limit values

The substance is a complex mixture of hydrocarbons. There are no established occupational exposure limits for methane and ethane, but standards have been set for the following higher hydrocarbons:

propane	WEL = 1800 mg/m <sup>3</sup> ; WLS none
butane	WEL = 1900 mg/m <sup>3</sup> ; WLS = 3000 mg/m <sup>3</sup>
pentane	WEL = 3000 mg/m <sup>3</sup> ; WLS none
iso-pentane	WEL = 3000 mg/m <sup>3</sup> ; WLS none
hexane (n-hexane)	WEL = 72 mg/m <sup>3</sup> ; WLS none
hexane (other isomers)	WEL = 400 mg/m <sup>3</sup> ; WLS = 1200 mg/m <sup>3</sup>
heptane	WEL = 1200 mg/m <sup>3</sup> ; WLS = 2000 mg/m <sup>3</sup>
octane	WEL = 1000 mg/m <sup>3</sup> ; WLS = 1800 mg/m <sup>3</sup>

It should be noted that the content of these hydrocarbons in natural gas is very low, with only the propane content exceeding 0.1 per cent by volume.

**National biological limit values:** DSB for hexane (n-hexane) 0.2 mg/l hexane-2,5-dione in urine

#### Information on currently recommended monitoring procedures for the most relevant substances

Methods for testing and measuring factors harmful to health in the working environment are defined by Polish Standards and international or equivalent standards:

propane	PN-Z-04252-1:1997; PIMOŚP 2010, No. 1(63)
butane	PN-Z-04252-1:1997; PIMOŚP 2010, No. 1(63)

## SECTION 8: Exposure controls/personal protective equipment

pentane	PN-Z-04318:2005; PiMOŚP 2000, No. 3(25)
iso-pentane	PN-Z-04376:2010; PIMOŚP 2003, no. 4(38)
hexane (n-hexane)	PN-Z-04136-3:2003, PIMOŚP 1999, z. 22
hexane (other isomers)	PiMOŚP 1997, z.17
heptane	PN-Z-04138-02:1984; PIMOŚP 2001, no. 4(30)
octane	PIMOŚP 1997 z. 17

### 8.2. Exposure controls

#### 8.2.1. Appropriate technical control measures

Use adequate ventilation, in case of insufficient ventilation use respiratory protection. Periodically check the tightness of the containers and the technical condition of the facilities, ventilation systems, protection against the release of substances into the environment.

#### 8.2.2. Individual protection measures, such as personal protective equipment

Observe general precautions when working with chemicals.

Do not inhale gas or combustion products.

Avoid contact of the expanding product with skin and eyes.

Observe the frequency of periodic examinations.

**(a) Eye or face protection:** use goggles or face shields for operations likely to cause contact.

**(b) Skin protection:**

**(i) Hand protection:** use coated gloves for prolonged and repeated contact,

**(ii) other:** anti-static protective clothing.

**c) Respiratory protection:** in case of prolonged exposure, in case of insufficient ventilation, in case of emergency use breathing apparatus isolating the respiratory tract / with independent air source.

**d) Thermal hazards:** no data available.

#### 8.2.3. Environmental exposure controls

Emissions from ventilation systems and process equipment should be checked to determine their compliance with environmental law requirements. Periodically check the tightness of natural gas systems.

Periodically check the tightness of the installations and tanks and the technical condition of the protection against release into the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

a) state of matter	gas,
b) colour	colourless,
c) fragrance	treated gas is odourless, for municipal purposes it is artificially odourised with THT
d) melting/freezing point	-183°C
e) initial boiling point	-161°C for methane
f) flammability (solid, gas)	extremely flammable gas
g) Upper/lower flammability or explosive limits	lower limit of 4.4-5.3% by volume for methane upper limit of 14.8 % vol. for methane (Type E - 4.5-18%, subtype L <sub>w</sub> - 5-22%, L <sub>s</sub> - 6-24%, L <sub>n</sub> - 7-29%, L <sub>m</sub> - 8-32% V/V)
h) flash point	<b>-188°C</b>
i) auto-ignition temperature	from about 480°C to about 630°C
j) decomposition temperature	not tested
k) pH	not applicable
l) kinematic viscosity	-
m) solubility	- in water at less than 3.5% vol. - soluble in organic solvents (e.g. benzene, tetrachloride carbon, chloroform)
n) distribution coefficient - noctanol/water (log)	1.09 for methane
o) vapour pressure	-
p) density or relative density	Not applicable
q) relative density	relative to air approximately 0.5-0.7 - a lighter gas than air
normal vapour density	0.72÷0.76 kg/m <sup>3</sup> (normal conditions)

## SECTION 9: Physical and chemical properties

r) **particle characteristics** Not applicable

### 9.2 Other information

**explosive properties** the product is not explosive - mixtures with air may be explosive (see explosion concentration limits)

**flammable gases** Flammable gaseous mixture, see section 9.1 for explosion limits,

**oxidising properties** not tested - on the basis of the chemical structure, oxidising properties are not to be expected

**minimum ignition energy**  $E_{min} = 0.25$  mJ for methane

## SECTION 10: Stability and reactivity

**10.1 Reactivity:** Reacts with strong oxidising agents.

**10.2 Chemical stability:** substance stable under normal conditions of use and storage.

**10.3 Possibility of hazardous reactions:** exposure of containers with the substance to high temperatures (possibility of explosion); unsealing of containers - escape of gas (flammable and explosive mixtures may form).

**10.4 Conditions to avoid:** sources of ignition (open flames, installations and equipment likely to cause sparks, static electricity), heating, high temperatures.

**10.5 Incompatible materials:** Strong oxidising agents, e.g. (V) and (VII) chlorates and halogens.

**10.6 Hazardous decomposition products:** none (organic substance - in case of fire, carbon monoxide is produced, among other things).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### a) acute toxicity

No data available for natural gas, the available information for the primary gas component methane and other constituent substances does not indicate a need for classification into the hazard class acute toxicity.

Natural gas has an asphyxiating effect (by displacing oxygen from the surrounding air), and inhalation exposure may result in drowsiness, shortness of breath, difficulty breathing, headaches and dizziness, accelerated heart rate, with high concentrations of the gas (when the oxygen concentration drops to 18% and below) disorientation, nausea, vomiting and loss of consciousness.

**Doses and concentrations lethal and toxic to humans:** no data available

**Odour threshold:** no data available

#### b) skin corrosion/irritation

No irritant effect of the gas on the skin was observed. The rapidly expanding compressed gas causes a significant drop in temperature and may cause thermal damage to the skin.

#### c) serious eye damage/irritation

Gas irritation to the eyes was not observed. The rapidly expanding compressed gas causes a significant drop in temperature and may cause thermal damage to the eyes.

#### d) respiratory or skin sensitisation

Not classified as sensitising. Exposure may in some cases exacerbate allergic reactions to other chemicals and asthmatic complaints.

## SECTION 11: Toxicological information

### e) mutagenic effect on germ cells

Based on the literature data on natural gas and knowledge of the properties of its constituents, it was assessed that natural gas does not exhibit mutagenic effects.

### f) carcinogenicity

Based on the literature data on natural gas and knowledge of the properties of its constituents, it was assessed that natural gas does not have a carcinogenic effect.

### g) adverse effects on reproduction

Based on the literature data on natural gas and knowledge of the properties of its constituents, it was assessed that natural gas does not exhibit reproductive effects.

### h) Toxic effects on target organs - single exposure

No data available for the product, analysis of the content and properties of the ingredients does not indicate a need to classify in this hazard class.

### i) Toxic effects on target organs - repeated exposure

No data available for the product, analysis of the content and properties of the ingredients does not indicate a need to classify in this hazard class.

### j) Aspiration hazard

Not applicable (gas).

#### 11.2 Information on other hazards

The substance/mixture has no endocrine disrupting properties.

## SECTION 12: Ecological information

### 12.1 Toxicity

The substance has not been tested. The aquatic toxicity assessment is based on data for the maximum labelled content of aliphatic hydrocarbons C<sub>7</sub> and C<sub>8</sub> (Aquatic Hazardous Substances - Chronic, Category 1) and C<sub>5</sub> and C<sub>6</sub> (Aquatic Hazardous Substances - Chronic, Category 2). On this basis, it was assessed that the product does not require classification as a substance of concern for the aquatic environment. It should be further emphasised that water contamination is unlikely due to the gaseous state of the product.

### 12.2. Persistence and degradability

Methane is among the substances that are persistent in the environment; in the air, it undergoes photochemical decomposition (half-life of approximately six years); in the soil, it is broken down by soil bacteria.

### 12.3. Bioaccumulative potential

Methane does not accumulate in organisms or in the food chain (log Pow=1.09).

### 12.4 Mobility in soil

Volatile substance - if released into the environment, natural gas is rapidly dispersed in the atmospheric air, from soil and water it readily enters the air.

### 12.5 Results of PBT and vPvB assessment

No assessment was made

**12.6 Endocrine disrupting properties: the substance** is not assessed as having endocrine disrupting properties.

**12.7 Other harmful effects:** Natural gas (actually its main component, methane) is one of the gases that causes the greenhouse effect (e.g. as a result of volatilisation from leaking installations). When natural gas escapes through the soil, it causes oxygen displacement and the destruction of vegetation



## SECTION 13: Disposal considerations

### 13.1 Waste disposal methods

The use of natural gas as a fuel does not generate waste. Waste may be generated during the purification and further processing of the gas.

Dispose of collected waste in accordance with current regulations (see section 15). Disposal of this product or derived products should in any case comply with the requirements of environmental protection and waste disposal legislation and local authorities.

**Product:** Dispose of by controlled incineration.

**Uncleaned packaging:** recovery, recycling or disposal of packaging waste generated in the area of professional activity should be carried out in accordance with current legislation. Disposal of transport containers or other containers and equipment contaminated should be carried out by authorised persons in a manner that does not pose a risk to the environment.

#### References to Community / national legislation

1. Announcement by the Speaker of the Sejm of the Republic of Poland of 16 April 2020 on the announcement of the uniform text of the Waste Act (Journal of Laws 2020, item 797)
2. Regulation of the Minister of Climate of 2 January 2020 on the waste catalogue (Journal of Laws 2020 item 10)

#### Waste classification according to the European Waste Catalogue (EWC):

Waste is classified according to the source of its generation, hence the waste code may vary depending on how and where the waste is generated. The specific waste code should be assigned taking into account where and how the waste is generated and its composition (mercury, sulphur contamination).

Wastes from natural gas purification and transportation - group 05, subgroup 05 07.

## SECTION 14: Transport information

**14.1 UN number (UN number):** 1971

**14.2 UN proper shipping name:** NATURAL GAS

**14.3 Transport hazard class(es):** 2 (classification code 1F, sticker 2.1, hazard identification number 23)

**14.4 Packing group:** not applicable

**14.5 Environmental hazards:** The commodity does not pose a hazard to the environment according to transport regulations.

#### 14.6 Special precautions for users

- no smoking, no naked flames and no sparking objects because of fire hazard and the possibility of an explosion,
- transported in sealed, ADR compliant containers/tanks,
- do not transport with other substances.

**14.7 Sea transport in bulk according to IMO instruments:** not applicable

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific to the substance or mixture

- ADR agreement on the international carriage of dangerous goods by road.
- IMDG Code International Maritime Dangerous Goods Code.
- IATA Dangerous Goods Regulations.
- 1907/2006/EC Regulation of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and No 1488/94 as well as Council Directive 76/769/EEC and Commission Directive 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended.
- 1272/2008/EC Regulation of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended.
- 2020/878/EU Commission Regulation of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals.
- 2000/39/EC Commission Directive of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EEC on the protection of the health and safety of workers from the risks related to chemical agents at work. 2006/15/EC Commission Directive of 7 February 2006 establishing a second list of indicative



## SECTION 15: Regulatory information

occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.

- 2009/161/EU Commission Directive of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
- 2017/164/EU Commission Directive of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values in accordance with Council Directive 98/24/EC and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.
- 2019/1831/EU Commission Directive of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values in accordance with Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
- 2008/98/EC Directive of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, as amended.
- 94/62/EC European Parliament and Council Directive of 20 December 1994 on packaging and packaging waste, as amended.
- 2016/425/EU Regulation of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.
- Act of 25 February 2011 on chemical substances and their mixtures (Journal of Laws 2011, No. 63, item 322, as amended).
- Regulation of the Minister of the Family, Labour and Social Policy of 12 June 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the working environment (Journal of Laws 2018, item 1286, as amended).
- Waste Act of 14 December 2012. (Journal of Laws 2013, item 21, as amended).
- Act of 13 June 2013 on packaging and packaging waste management (Journal of Laws 2013, item 888, as amended).
- Regulation of the Minister of Climate of 2 January 2020 on the waste catalogue (Journal of Laws 2020, item 10).
- Regulation of the Minister of Health of 2 February 2011 on tests and measurements of factors harmful to health in the working environment (Dz. U. 2011, No. 33, item 166, as amended).

The substance is not on the REACH candidate list.

### 15.2 Chemical safety assessment

No chemical safety assessment - substance exempted from registration.

## SECTION 16: Other information

### Full text of the H-phrases in section 2 of the data sheet

H220 - Extremely flammable gas,

H280 - Contains gas under pressure, may explode if heated (Gases under pressure: compressed gas, liquefied gas, dissolved gas).

### Explanation of abbreviations and acronyms

Log Pow log octanol-water partition coefficient

WEL maximum allowable concentration

MAK - maximum allowable instantaneous concentration

DSB permissible concentration in biological material

GHS02 Symbol: flame

GSH04 Symbol: gases under pressure

### Essential training

Before handling the product, the user should be familiar with the health and safety rules for handling with chemicals and, in particular, receive appropriate job training.

Persons involved in the transport of hazardous materials under the ADR agreement should be adequately trained in their duties (general, job and safety training).

### References to key literature and data sources

1. ESIS (European Chemical Substances Information System)
2. European Chemicals Bureau IUCLID Dataset
3. Haz-Map, Occupational Exposure to Hazardous Agents: <http://hazmap.nlm.nih.gov/>
4. Integrated Risk Information System (IRIS) U.S. Environmental Protection Agency: <http://www.epa.gov/iris/>
5. International Labour Organization, International Chemical Safety Cards: <http://www.iol.org/public/>
6. International Programme on Chemical Safety (IPCS), INCHEM, Chemical Safety Information from Intergovernmental Organisations: <http://www.inchem.org/>.
7. TOXNET Hazardous Substances Data Bank (HSDB): <http://toxnet.nlm.nih.gov/>.
8. U.S. Environmental Protection Agency, Persistent Bioaccumulative and Toxic (PBT) Chemical Program: <http://www.epa.gov/pbt/>.
9. Safety Data Sheets for Hazardous Substances, CIOP, Warsaw 2005
10. MSDS Unodourized Natural Gas, Manitoba Hydro, USA, 2004
11. MSDS Natural Gas, GazMetro, Canada, 2007

---

## **SECTION 16: Other information**

---

### **Additional information**

The Data Sheet was drafted by :      ORLEN Spółka Akcyjna – Oddział Laboratorium Pomiarowo-Badawcze PGNiG w Warszawie

Update date:                                03.07.2023 r.

Version:                                        2.1/EN

Amendments:

Section 1: Contact details in subsection 1.3 are updated due to change of the name of ORLEN S.A.

The above information is based on currently available data characterising the product and the manufacturer's experience and knowledge in this field. They do not constitute a qualitative description of the product or a promise of specific properties. They should be regarded as an aid to safe handling in transport, storage and use of the product. This does not release the user from responsibility for the misuse of the above information and from compliance with all applicable legal standards.

Thorough material compatibility and safety testing should be carried out before using this product in any new experiment or process.

The details provided in this document are believed to be correct at the time of going to press.

Although this document has been compiled with the utmost care, no liability is accepted for injury or material loss arising from its use.

**End of document**