

Flogas Safety Data Sheet

CNG – NATURAL GAS, COMPRESSED

Data Sheet No 4: Issue 2

Replaces Issue 1

This data sheet has been prepared in accordance with the requirements of Article 31 of EU Regulation 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1: IDENTIFICATION OF THE SUBSTANCE OR PREPARATION & SUPPLIER

PRODUCT: NATURAL GAS, COMPRESSED

Including products marketed as: CNG

EINECS NUMBER: 200-812-7 **CAS NUMBER:** 74-82-8

RECOMMENDED USES:

Flogas CNG is a product intended to be used for:

- fuel for commercial equipment which has been specifically designed to run on Natural Gas;
- internal combustion engine fuel (via on board CNG storage, when used as a propulsion fuel);

Flogas CNG is not supplied for domestic consumer use (other than as a road fuel).

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2: HAZARD IDENTIFICATION

- Extremely Flammable (F+, R12).
- Readily forms an explosive air-vapour mixture at ambient temperature.
- Press. Gas (Compressed Gas) – Contains gas under pressure, may explode if heated.
- Flam. Gas 1 – Extremely flammable gas.
- In high concentrations may cause asphyxiation.
- Vapour jets present a risk of serious damage to unprotected skin or eyes.

3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Composition:

Natural Gas, compressed consisting predominantly of CH₄ hydrocarbon (Methane), with traces of Ethane, Propane and Nitrogen.

As a gas, which occurs in nature and is not chemically modified, this is exempted from Titles II (Registration), V (Downstream Users) and VI (Evaluation) of the EU REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation by virtue of Article 2(7)

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4: FIRST AID MEASURES

INHALATION

In high concentrations may cause asphyxiation, symptoms may include loss of mobility/consciousness, affected person may not be aware of asphyxiation. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Remove the affected person to an uncontaminated area (self-contained must be worn if entering contaminated areas). If breathing has stopped administer artificial respiration. Give external cardiac massage if necessary. If the person is breathing, but unconscious, place them in the recovery position. Immediately obtain medical assistance. Keep affected person warm and rested.

INGESTION

Not considered a potential route of exposure.

5: FIRE-FIGHTING MEASURES

Avoid all naked flames, sparks, cigarettes, etc.

- **IN CASE OF FIRE, IMMEDIATELY ALERT THE FIRE BRIGADE.**
- Ensure an escape path is always available from any fire.
- If gas has ignited, do not attempt to extinguish but stop gas flow and allow to burn out.
- Use water spray to cool heat-exposed containers, and to protect surrounding areas and personnel effecting shut-off.

Every precaution must be taken to keep containers cool to avoid the possibility of a rupture.

Pressurised containers are liable to explode violently when subjected to high temperatures.

Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus.

Extinguishing Media

All known extinguishants can be used.

Products of Combustion

See Stability and Reactivity, Section 10 of this Safety Data Sheet

6. ACCIDENTAL RELEASE MEASURES

IMMEDIATE EMERGENCY ACTION:

- Clear people away from the area to a safe place;
- Do not operate electrical equipment unless flameproof, eliminate all other sources of ignition;
- Wear self-contained breathing apparatus when entering area unless atmosphere is proved safe;
- Ensure adequate air ventilation;
- Try to stop release;
- Summon aid of emergency services;
- Treat or refer casualties if necessary.

FURTHER ACTION – FIRE

IF SAFE TO DO SO :

- Stop product flow
- Use dry powder or carbon dioxide extinguishers
- Cool containers exposed to fire by water fog/spray

7: HANDLING AND STORAGE

HANDLING PRECAUTIONS

- No Smoking or Naked Lights.
- Ensure good ventilation.
- Avoid inhalation of vapour.
- Wear protective footwear, eye protection, clothing and suitable gloves.

STORAGE CONDITIONS

- No Smoking or Naked Lights.
- Store only in storage designed for this product.
- Do not remove warning signs labels.

FIRE PREVENTION

- Explosive air/vapour mixtures may form at ambient temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

The following limits are taken from The Health and Safety Executive's Guidance Note EH40: Occupational Exposure Limits.

Occupational Exposure Limits:

Natural Gas, Compressed is not subject to a specific OEL.

*Methane is identified as a simple asphyxiant and EH40 paragraph 57 applies

9: PHYSICAL AND CHEMICAL PROPERTIES

General Information

Appearance:	Colourless gas
Odour:	Odourless.
Boiling Point:	-161 °C
Melting Point:	-182 °C
Flammability Limited:	4.4% to 17% (by volume) in air
Auto-flammability:	595 °C
Relative Density :	0.6 (Air = 1.0)

Important Health, Safety and Environmental Information

- Extremely Flammable (F+, R12).
- Readily forms an explosive air-vapour mixture at ambient temperature.
- Vapour jets present a risk of serious damage to unprotected skin or eyes.

Other Information:

No other information is relevant to this product

10: STABILITY AND REACTIVITY

Reactivity

No reactivity hazards other than the effects described in the sub-sections below.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

May react violently with oxidants. Can form potentially explosive atmosphere in air.

Conditions to avoid;

Keep away from heat/sparks/open flames/hot surfaces – no smoking.

Materials to avoid;

Air, Oxidisers. For full material compatibility see latest version of BS EN ISO 11114

Decomposition products;

The substances arising from the thermal decomposition of these products will largely depend upon the conditions bringing about decomposition. The following substances may be expected from normal combustion:

- Carbon Dioxide (CO₂);
- Water (H₂O)

Note: Carbon Monoxide (CO) may be produced if there is insufficient air for complete combustion.

11: TOXICOLOGICAL INFORMATION

Inhalation;

Low vapour concentrations may cause nausea, dizziness, headaches and drowsiness. May have a narcotic effect if high concentrations of vapour are inhaled. High vapour concentrations may produce symptoms of oxygen deficiency which, coupled with central nervous system depression, may lead to rapid loss of consciousness.

Abuse;

Under normal conditions of use the product is not hazardous; however, abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and/or result in a sudden fatality.

Carcinogenicity;

No known behaviour.

Mutagenicity;

No known behaviour.

Tetratogenicity;

No known behaviour.

12: ECOLOGICAL INFORMATION

General;

No known ecological damage is caused by this product.

13: DISPOSAL CONSIDERATIONS

Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner, with a flash back arrestor.

14: TRANSPORT INFORMATION

UN Proper Shipping Name: Natural Gas, Compressed
UN Number: 1971
Symbol: Flammable Gas
Packing Group: N/A

ADR/RID Proper Shipping Name: Natural Gas, Refrigerated Liquid
Substance Identification No.: 1971
Class: 2
Classification Code: 1F
Label: 2.1
Tunnel Code: (B/D)

IMDG Hazard Class: 2.1
Marine Pollutant: No.

Hazard Identification No.: 23
Hazchem Code: 2SE

15: REGULATORY INFORMATION

This material has been classified according to the requirements of implementing the United Nations "Globally Harmonised System of Classification and Labelling of Chemicals" (GHS), EU Regulation 1271/2008 on the Classification, Labelling and Packaging of Substances and Mixtures (the CLP Regulation) and the Chemicals (Hazard Information and Packaging for Supply) regulations (CHIP 4)

Dangerous for Supply**Product Label**

Extremely Flammable Gas
Contains: Natural Gas, Compressed
Symbol: Flame

**Risk Phrases**

H220 Extremely flammable gas
H280 Contains gas under pressure; may explode if heated.

Safety Phrases

- P210 Keep away from heat/sparks/open flames/hot surfaces – NO SMOKING
- P377 Leaking Gas Fire: Do not extinguish, unless leak can be stopped safely.
- P381 Eliminate all sources of ignition if safe to do so
- P403 Store in a well-ventilated place.

16: OTHER INFORMATION

The references set out below provide further information:

LEGISLATION

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations

Chemical Hazard Information and Packaging for Supply Regulations (CHIP)

Health and Safety at Work etc. Act

Management of Health and Safety at Work Regulations

Control of Major Accident Hazards Regulations 1999 (as amended)

Dangerous Substances (Notification and Marking of Sites) Regulations

Dangerous Substances and Explosive Atmosphere Regulations

Pipelines Safety Regulations

Gas Safety (Installation and Use) Regulations

The Pressure Systems Safety Regulations 2000

EU Regulation 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

EU Regulation 1271/2008 on the Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation).

REVISION INFORMATION

Section 2 and 3 reordered to correspond with the 'REACH' regulations, reference to NIHHS regulations removed.