
 SUBSTANCE INFORMATION SHEET

COMPRESSED NATURAL GAS:

Supplied from Liquefied Natural Gas Refuelling Station

Document Ref: HGSSOW43

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Revision Status: R0

Revision Date: August 2003

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: COMPRESSED NATURAL GAS
SYNONYMS, TRADE NAMES: CNG, Methane, Natural Gas
SUPPLIER ADDRESS: Portal Gas Services
 Part of the Hardstaff Group
 Hillside, Gotham Road
 Kingston-on-Soar
 Nottingham, NG11 0DF
CONTACT TELEPHONE NUMBER: 0115 983 0093
EMERGENCY TELEPHONE NO. 07970 722126

2. PRODUCT COMPONENTS

INGREDIENT NAME	CAS No.	CONTENTS (mol % approx)	HEALTH RISK
METHANE	74-82-8	typically 95.1%	
ETHANE	74-84-0	4.5%	
PROPANE	74-98-6	0.3%	
NITROGEN	7727-37-9	0.1%	

3. HAZARDS IDENTIFIED

Extremely Flammable.
 Gas is an asphyxiant.
 CNG supplied from a LNG storage station is **odourless**

4. FIRST AID MEASURES

INHALATION: NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Remove affected person immediately from source of exposure. Provide rest, warmth and fresh air. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. If breathing stops, provide artificial respiration. Get medical attention.

INGESTION: Remove affected person immediately from source of exposure. Get medical attention. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position.

5. FIRE AND EXPLOSION

EXTINGUISHING MEDIA:	Dry powder, Foam
SPECIAL FIRE FIGHTING PROCEDURES:	If safe to do so isolate gas supply. Cool containers exposed to flames with water from the side until well after the fire is out. Avoid breathing fire vapours. Keep up-wind to avoid fumes.
UNUSUAL FIRE & EXPLOSION HAZARDS	CNG supplied from a LNG storage station is odourless . Forms explosive mixtures with air. Vapours may ignite. May travel considerable distance to source of ignition and flash back.
HAZARDOUS DE-COMPOSITION PRODUCTS:	Oxides of Carbon
PROTECTIVE MEASURES IN FIRE:	Protective clothing and pressure-demand breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS DURING LEAKAGE:	Wear suitable protective clothing, gloves and safety goggles.
PRECAUTIONS TO PROTECT ENVIRONMENT:	Isolate gas leaks as soon as practicable and ventilate surrounding areas.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS:	Keep away from heat and sources of ignition. Ventilate well; avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Equipment and materials shall be designed and specified for CNG application, and comply with recognised safety standards. Equipment shall be subject as a minimum to statutory maintenance and testing standards. Storage and transfer systems shall operate at positive pressures, and have adequate and unrestricted ventilation. Vehicle applications shall comply with appropriate industry standards. Vehicles shall operate, park, and be maintained in well-ventilated areas.
STORAGE PRECAUTIONS:	Keep away from heat and sources of ignition. Ground container and transfer equipment to eliminate static electric sparks. Unrestricted ventilation.
STORAGE CRITERIA:	Flammable compressed gas storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME:	CAS No.	LT EXP (8hrs)	ST EXP (15 min)
METHANE	74-82-8	Asphyxiating	No std.
ETHANE	74-84-0	No std.	No std.
PROPANE	74-98-6	Asphyxiating	Asphyxiating
NITROGEN	7727-37-9	Asphyxiating	Asphyxiating

VENTILATION:	Non-mechanical ventilation for vehicle applications. Use only in well ventilated areas when applicable to buildings. All refuelling applications to be completed in open air.
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PROTECTIVE CLOTHES:	Wear gloves, unrestricted overall clothing and ear defenders as necessary.
EYE PROTECTION:	Wear safety goggles or glasses.
OTHER PROTECTION:	Respiratory protection must be worn if air contamination exceeds acceptable level. Wear air supplied respiratory protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Gas
COLOUR	Colourless
ODOUR	Odourless
SOLUBILITY DESCRIPTION	Negligible in water
DENSITY/SPECIFIC GRAVITY (kg/m³)	199 (kg/m ³ at 250 bar)
MOL. WEIGHT	17
BOILING POINT(°C)	-161
MELTING POINT (°C)	-183
FLASH POINT (°C)	-188
AUTOIGNITION TEMP (°C)	580
FLAMMABILITY LIMIT - LOWER (% Vol)	4.5
FLAMMABILITY LIMIT - UPPER (%Vol)	15
VAPOUR DENSITY (air=1)	0.55

10. STABILITY AND REACTIVITY

STABILITY:	Stable under ambient conditions.
CONDITIONS TO AVOID:	Uncontrolled escapes. Is flammable over wide range in air. Avoid heat and sources of ignition. Avoid contact with Oxidising Agents and Halogens.
MATERIALS TO AVOID:	Bromine, Chlorine, Chlorine Dioxide, Fluorine, Oxygen, Oxygen Difluoride.
HAZARDOUS DE-COMPOSITION PRODUCTS:	Oxides of Carbon

11. TOXICOLOGICAL INFORMATION

HEALTH WARNINGS	Methane is absorbed by the lungs and most is excreted unchanged in expired air. In high concentrations it is a simple asphyxiant. It is particularly inert and has no demonstrated physiological or toxicological effects.
ROUTE OF ENTRY:	Inhalation.
TARGET ORGANS:	Lungs.
MEDICAL SYMPTOMS:	May cause headaches, blurred vision, dizziness, drowsiness, nausea and vomiting if inhaled. High vapour concentrations may lead to unconsciousness.

12. ECOLOGICAL INFORMATION

The immediate potential danger from Compressed Natural Gas to the environment is from the effects of fire and explosion, which could kill or injure wildlife and scorch or burn habitats.

Methane emissions contribute to global warming.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Eliminate all sources of ignition and use forced ventilation to keep gas concentration below explosive mixture range. Slowly vent excess gases or a leaking cylinder to atmosphere in a safe open space.

14. TRANSPORT INFORMATION**LABEL OF CONVEYANCE**

PROPER SHIPPING NAME: NATURAL GAS, COMPRESSED

ROAD TRANSPORT:

UN No. ROAD: 1972
 ADR CLASS No.: 2
 ADR ITEM No.: 1F
 HAZARD No. (ADR): 23
 HAZARD CLASS (ADR): 2: Gases: Compressed, liquefied or dissolved under pressure.
 HAZCHEM CODE: 3z

RAIL TRANSPORT: Forbidden.

SEA TRANSPORT: Forbidden.

AIR TRANSPORT: Forbidden.

15. REGULATORY INFORMATION

RISK PHRASES: R12 Extremely Flammable

SAFETY PHRASES: S1 Keep locked up.
 S9 Keep container in a well ventilated place.
 S16 Keep away from sources of ignition - No Smoking.
 S33 Take precautionary measures against static discharges.

UK REGULATORY REFERENCES:

Chemicals (Hazard information and Packaging for Supply) Regulations.

GUIDEANCE NOTES: Attention is drawn to the Gas Safety (Installation and Use) Regulations 1994, relevant Transco Standards and appropriate Transco standards codes of practice and guidance notes, all of which deal with the design application and safe use of gas and gas fired equipment. CNG supplied from Public Gas Transporters pipeline systems will have an odourant added (i.e. it will have a distinctive gas smell). This form of CNG may be supplied from other NGV fuel suppliers.

16. OTHER INFORMATION

INFORMATION SOURCES: National Grid Transco Safety Data Sheet
 The Institute of Gas Engineers – IGE/UP/5.