

SAFETY DATA SHEET
Title: METHANE, COMPRESSED SAFETY DATA SHEET
Date of Issue: 1 October 2025
Date of Next Review: 1 October 2030

SAFETY DATA SHEET

COMPRESSED METHANE

1: IDENTIFICATION OF MATERIAL AND SUPPLIER:

1.1 Produce Identifier:

Product Name: Methane, Compressed
Chemical Name: Methane, CH₄
Synonyms: Marsh Gas, Methyl Hydride, Natural Gas
UN Number: 1971

1.2: Use: Methane is used as a fuel gas. Chemical Reagent.

1.3: Detail of the Supplier of the Produce:

Supplier Name: Southern Gas Services Ltd
Address: 67 Hoskyns Rd, Rolleston 7675
Telephone No: (03) 3472691
Email: reception@southernngas.co.nz
Website: <https://www.southernngas.co.nz>

1.4: Emergency telephone number:

Emergency **Dial 111**

2: HAZARDS IDENTIFICATION:

2.1 Classification of the Substance or Mixture:

CLASSIFIED AS HAZARDOUS ACCORDING TO HAZARDOUS SUBSTANCES
[CLASSIFICATION] REGULATIONS 2001

Physical Hazards

Flammable Gas: Category 1A (Extremely Flammable Gas)
Gas Under Pressure: Compressed Gas

Health Hazards

Not classified as a Health Hazard

Environmental Hazards

Not classified as an Environmental Hazard

2.2 Label Elements:

Signal Word DANGER

Pictogram(s)



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Hazard Statement:

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

Prevention Statements:

P202 Do not handle until all safety precautions have been read and understood
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Strictly no smoking

Response Statements:

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.

Storage Statements:

P403 Store in a well-ventilated place.
P410 Protect from direct sunlight.

Disposal Statements:

None allocated.

2.3 Other Hazards:

Asphyxiant, effects are proportional to oxygen displacement.

3: COMPOSITION / INGREDIENTS:

3.1 Substance / Mixture:

Ingredient	CAS Number	EC Number	Proportion
METHANE	74-82-8	200-812-7	>99.9%

Contains no other components or impurities that will influence the classification of the product.

4: FIRST AID MEASURES:

4.1 Description of First Aid Measures:

Eye: Adverse effects not expected from this product

Inhalation: If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self-Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available.

Skin: Adverse effects not expected from this product.

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Ingestion: Ingestion is not considered a potential route of exposure.

First Aid Facilities: No information provided

4.2 Most Important Symptoms and Effects, both Acute and Delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.

4.3 Immediate Medical Attention and Special Treatment Needed

Treat for asphyxia. Treat symptomatically.

5: FIRE FIGHTING MEASURES:

5.1 Extinguishing Media

Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve. If the gas source cannot be isolated, do not extinguish the flame, since re-ignition and explosion could occur. Await arrival of emergency services or manufacturer's advisor. Drench and cool cylinders with water spray from protected area at a safe distance. If it is absolutely necessary to extinguish the flame, use only a dry chemical powder extinguisher. Do not move cylinders for at least 24 hours. Avoid shock and bumps to cylinders.

5.2 Special Hazards Arising from the Substance or Mixture

Extremely flammable. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling. No hazardous decomposition product when heated to decomposition.

5.3 Advice for Firefighters

Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. This material is capable of forming explosive mixtures in air.

5.4 Hazchem Code

2SE

2 Fine Water Spray.

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- S Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Dilute spill and run-off.
- E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6: ACCIDENTAL RELEASE MEASURES:

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Eliminate all sources of ignition. Consider the risk of potentially explosive atmospheres.

6.2 Environmental Precautions

Prevent from entering sewers, basements and work-pits, or any place where its accumulation can be dangerous.

6.3 Methods of Cleaning Up

Carefully move material to a well-ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7: HANDLING AND STORAGE:

7.1 Precautions for Safe Handling

Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement. Never open a hydrogen cylinder valve without the regulator attached. Gas regulator of suitable pressure and flow rating fitted to cylinder and manifold with low pressure gas distribution equipment which controls fuel gas mixture and flame. The regulator and other equipment must be compatible with the product and suited for the particular use.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Do not store near incompatible substances and sources of ignition. Cylinders should be stored: upright, prevented from falling, in a secure area; below 65°C, in a dry, well-ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits. Post "No Smoking or Open Flames" signs in the storage areas. Refer to applicable legislation on flammable storage quantity restrictions.

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7.3 Specific End Use(s)

No information provided.

8: EXPOSURE CONTROLS / PERSONAL PROTECTION:

8.1 Control Parameters:

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Methane	WES [NZ]	Asphyxiant			

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure Controls

Engineering controls Provide suitable ventilation to minimise or eliminate exposure. Confined areas (e.g. tanks) should be adequately ventilated or gas tested. Flammable/explosive vapours may accumulate in poorly ventilated areas.

PPE

Eye / Face	Wear safety glasses.
Hands	Wear leather or cotton gloves.
Body	Wear coveralls and safety boots.
Respiratory	If using product in a confined area, wear an Air-line / Full facepiece Supplied-Air Respirator (SAR).



9: PHYSICAL AND CHEMICAL PROPERTIES:

9.1 Information on Basic Physical and Chemical Properties

Appearance	COLOURLESS GAS
Odour	ODOURLESS
Flammability	EXTREMELY FLAMMABLE
Flash point	- 223 °C
Boiling point	- 162 °C
Melting point	- 183 °C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE

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Vapour density	NOT AVAILABLE
Relative density	NOT AVAILABLE
Solubility (water)	3.5%
Vapour pressure	101.2 kPa@ -161 °C
Upper explosion limit	17 % IN AIR
Lower explosion limit	4 % IN AIR
Partition coefficient	NOT AVAILABLE
Autoignition temperature	600 °C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other Information

% Volatiles	100 %
Density	0.717 (Air = 1)
Critical pressure	NOT AVAILABLE
Critical temperature	NOT AVAILABLE
Cylinder pressure (when full)	20,000 kPa @ 15°C

10. STABILITY AND REACTIVITY:

10.1 Reactivity

Careful review all information provided in sections 10.2 to 10.6

10.2 Chemical Stability

Generally stable under recommended conditions of storage.

10.3 Possibility of Hazardous Reactions

Polymerisation will not occur.

10.4 Conditions to Avoid

Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

10.5 Incompatible Materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources. Do not use natural rubber flexible hoses. Also, incompatible (potentially violent) with oxygen, halogens and metal halides.

10.6 Hazardous Decomposition Products

Methane will not decompose to form hazardous products other than already present.

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11. TOXICOLOGY INFORMATION:

11.1 Information on Toxicological Effects

Acute toxicity Based on available data, the classification criteria are not met.

Ingredient	Oral LD50	Dermal LD50	Inhalation LD50
METHANE	-	-	326 g/m ³ /2h (mouse)

Skin	Not classified as a skin irritant.
Eye	Not classified as an eye irritant.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen.
Reproductive	Not classified as a reproductive toxin.
STOT – single exposure	Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.
STOT- repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration	Not classified as causing aspiration

12. ECOLOGICAL INFORMATION:

12.1 Toxicity

No ecological damage is expected to be caused by this product.

12.2 Persistence and Degradability

No information provided.

12.3 Bio Accumulative Potential

This product is not expected to bioaccumulate as it is a lighter than air gas.

12.4 Mobility in Soil

Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5 Other Adverse Effect

When discharged to the atmosphere, methane may contribute to the greenhouse gas effect.

13. DISPOSAL CONSIDERATIONS:

13.1 Waste treatment methods

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

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Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION:

CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2012, UN, IMDG OR IATA



	Land Transport (NZS 5433)	Sea Transport (IMDG. IMO)	Air Transport (IATA/ICAO)
14.1 UN Number	1971	1971	1971
14.2 Proper Shipping name	METHANE, COMPRESSED	METHANE, COMPRESSED	METHANE, COMPRESSED
14.3 Transport Hazard Class	2.1	2.1	2.1
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental Hazards

No information provided.

14.6 Special Precautions for User

Hazchem code 2SE

EmS F-D, S-U

Other Information Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
 Before transporting product containers:
 Ensure there is adequate ventilation.
 Ensure that containers are firmly secured.
 Ensure cylinder valve is closed and not leaking.
 Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
 Ensure valve protection device (where provided) is correctly fitted.

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15. REGULATORY INFORMATION:

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

Approval code	HSR001005
Group Standard	Gas Under Pressure, Compressed Gas (Flammable Gas Category 1A)
Inventory Listings	New Zealand: NZIoC (New Zealand Inventory of Chemicals) All components are listed on the NZIoC inventory or are exempt.
Classifications:	Based upon the Globally Harmonised System (GHS) of classification and labelling of Chemicals (GHS Revision 7)
Legislation:	Approved under Hazardous Substances and New Organisms Act 1996 (HSNO) and Health and Safety at Work (Hazardous Substances) Regulations 2017

16. OTHER INFORMATION:

Additional Information	<p>When using this gas/gas mixture for welding, cutting and associated processes, additional hazards may be generated by the process such as radiation, noise and fume. Risk assessments should be made for each activity to identify and quantify the individual hazards involved. Please refer to the relevant Safety Data Sheets for the welding consumables being used or, if available, the materials being welded.</p> <p>Application method: Never open an acetylene cylinder valve without the regulator attached. Gas regulator of suitable pressure and flow rating fitted to cylinder and manifold with low pressure gas distribution equipment which controls fuel gas mixture and flame. The regulator and other equipment must be compatible with the product and suited for the particular use.</p> <p>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p>HEALTH EFFECTS FROM EXPOSURE: It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all</p>
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possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Cylinder Colour:

Industrial: AS2700 –Red or White

Cylinder Valve Outlet:

Industrial: AS 2473.2 Type 20

References:

NZS 5433:2007 Transport of Dangerous Goods on Land

EPA Website – Approvals Register – www.epa.govt.nz

SNZ HB76:2008 Dangerous Goods – Initial Emergency Response Guide

AS1678 2C1 Emergency Procedure Guide – Transport – Non-Flammable, Compressed Gas

AS 4484-2004 - Gas Cylinders for Industrial, Scientific, medical and refrigerant use - Labelling and colour coding

AS 2473.2-2007 - Valves for compressed gas outlets - Part 2 Outlet connections (threaded) and stem (inlet) threads

Operators Handbook for the Transport of Dangerous Goods by Road – NZ Road Transport & Logistics Industry Training Organisation

NZCIC Code of Practice – Preparation of Safety Data Sheets

Abbreviations	ACGIH	American Conference of Governmental Industrial Hygiene
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CCID	Chemical Classification and Information Database (HSNO)
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	EPA	Environmental Protection Authority [New Zealand]
	GHS	Globally Harmonised System
	HSNO	Hazardous Substances and New Organisms
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% /Median Lethal Conc
	LD50	Lethal Dose, 50%/Median Lethal Dose
	mg/m³	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	Relates to Hydrogen ion concentration
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific Target Organ Toxicity (repeated exposure)
	STOT-SE	Specific Target Organ Toxicity (single exposure)

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TLV	Threshold Limit Value
TWA	Time Weighted Average

17. SDS SUMMARY:

This SDS summarises to our best knowledge, at the date of issue, the health and safety hazard information regarding this product and general guidance on how to safely handle the product in the workplace. All due care has been taken to include accurate and up-to-date information in this SDS.

Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Southern Gas Services Limited.

As far as lawfully possible, no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS can be accepted.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is available on request.

This SDS has been prepared in accordance with NZCIC Code of Practice – Preparation of Safety Data Sheets.

This SDS is subject to change without notice.

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