Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

• Methane (0.0001 - 3.75%), Air (Balance)

Product Code • M-22711/E-2

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

Relevant identified use(s) • Test Gas/Calibration Gas

1.3 Details of the supplier of the safety data sheet

Manufacturer • Air Liquide

2700 Post Oak Blvd. Houston, TX 77056 United States

www.us.airliquide.com sds@airliquide.com

Telephone (Technical) • 713-896-2896 Telephone (Technical) • 800-819-1704

1.4 Emergency telephone number

Manufacturer 800-424-9300 - CHEMTREC

Manufacturer +1 703-527-3887 - Outside United States

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010] According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Compressed Gas - H280

DSD/DPD • Not classified

2.2 Label Elements

CLP

WARNING



Hazard statements . H280 - Contains gas under pressure; may explode if heated

Precautionary statements

Revision Date: 17/October/2014

Storage/Disposal • Protect from sunlight when ambient temperature exceeds 125°F (52°C) P403 - Store in a well-ventilated place.

Preparation Date: 17/October/2014

DSD/DPD

Risk phrases . No label element(s) required

2.3 Other Hazards

CLP

Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
 According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD

Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
 According to European Directive 1999/45/EC this preparation is not considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

Compressed Gas - H280

2.2 Label elements

OSHA HCS 2012

WARNING



Hazard statements . Contains gas under pressure; may explode if heated - H280

Precautionary statements

Storage/Disposal • Protect from sunlight when ambient temperature exceeds 125°F (52°C) Store in a well-ventilated place. - P403

2.3 Other hazards

OSHA HCS 2012

 Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

Compressed Gas - A

2.2 Label elements

WHMIS



Compressed Gas - A

2.3 Other hazards

WHMIS

 Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
 In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA



Section 3 - Composition/Information on Ingredients

3.1 Substances

 Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition				
Chemical Name Identifiers % Classifications A		Classifications According to Regulation/Directive		
	CAS:74-82-8		EU DSD/DPD: Annex I: F+; R12	
Methane	EC Number:200-812-7	0.0001% TO 3.75%	EU CLP: Annex VI: Flam. Gas 1, H220; Press. Gas - Comp., H280	
	EU Index:601-001-00-4		OSHA HCS 2012: Flam. Gas 1;Press. Gas - Comp; Simple Asphyx.	
			EU DSD/DPD: Not Classified	
Air	CAS:132259-10-0	Balance	EU CLP: Self Classified: Press. Gas - Comp., H280	
			OSHA HCS 2012: Press. Gas - Comp.	

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

 If frostbite has occurred, seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has not occurred, immediately and thoroughly wash contaminated skin with soap and water.

Eye

• If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation, pain, swelling, lacrimation or photophobia persist, get medical attention as soon as possible.

Ingestion

 If frostbite has occurred, seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

 All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

4.4 Other information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after overexposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • Use extinguishing agent suitable for type of surrounding fire.

SMALL FIRES: Dry chemical or CO2. LARGE FIRES: Water spray or fog.

Unsuitable Extinguishing Media

No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion

Hazards

Hazardous Combustion Products

Containers may explode when heated. Ruptured cylinders may rocket.

No data available

5.3 Advice for firefighters

Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Wear positive pressure self-contained breathing apparatus (SCBA).

Move containers from fire area if you can do it without risk.

FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.

FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.

FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

Ventilate the area before entry. Do not walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

Keep unauthorized personnel away. Keep out of low areas. Stay upwind. Do not direct water at spill or source of leak. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile)

6.2 Environmental precautions

No special environmental precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up **Measures**

Stop leak if you can do it without risk. Ventilate the area. Allow substance to evaporate.

If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.

Isolate area until gas has dispersed.

6.4 Reference to other sections

Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

 Use only with adequate ventilation. Ventilate closed spaces before entering. Cylinders should be firmly secured to prevent falling or being knocked-over. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Store in a cool, dry, well-ventilated place. Protect cylinders against physical damage.
 Cylinders should be firmly secured to prevent falling or being knocked-over. Do not allow area where cylinders are stored to exceed 52C (125F).

7.3 Specific end use(s)

Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines							
	Result	ACGIH	Canada Ontario	Ireland	Israel	Portugal	
Methane (74-82-8)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	1000 ppm TWA	1000 ppm TWA (gas, listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA [VLE- MP]	
		Ex	posure Limits/Gu	idelines (Con't.)			
	Result Spain						
Methane (74-82-8)			TWAs	1000 ppm TWA [ED]	VLA-		

Exposure Control Notations

Ireland

•Methane (74-82-8): Simple Asphyxiants: (Asphyxiant)

8.2 Exposure controls

Engineering Measures/Controls

 Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

 In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face Skin/Body

- Wear safety glasses.
- Wear leather gloves when handling cylinders.

Environmental Exposure Controls

Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with no odor.
Color	Colorless	Odor	Odorless
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point	Data lacking
Decomposition Temperature	Data lacking	рН	Not relevant
Specific Gravity/Relative Density	Data lacking	Water Solubility	18.68 cm3/l
Viscosity	Data lacking	Explosive Properties	Data lacking.
Oxidizing Properties:	Data lacking.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	0.982 to 1 Air=1
Evaporation Rate	Data lacking		
Flammability		•	
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not flammable.		
Environmental		-	
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Excess heat.

10.5 Incompatible materials

Strong acids, oxidizers, and active metals. BrF5, Cl2,ClO2, NF3, liquid O2, and OF2.

10.6 Hazardous decomposition products

None

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Aspiration Hazard	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Carcinogenicity	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Germ Cell Mutagenicity	EU/CLP ◆ Classification criteria not met OSHA HCS 2012 ◆ Classification criteria not met
Skin corrosion/Irritation	EU/CLP ◆ Classification criteria not met OSHA HCS 2012 ◆ Classification criteria not met
Skin sensitization	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
STOT-RE	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
STOT-SE	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Toxicity for Reproduction	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Respiratory sensitization	EU/CLP Classification criteria not met OSHA HCS 2012 Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

Chronic (Delayed)

Contact with rapidly expanding gas may cause burns or frostbite.

No data available

Skin

Acute (Immediate)

Chronic (Delayed)

- Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
- No data available

Eye

Acute (Immediate)

Chronic (Delayed)

- Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
- No data available

Ingestion

Acute (Immediate)

Ingestion can cause burns similar to frostbite.

Chronic (Delayed)

No data available

Section 12 - Ecological Information

12.1 Toxicity

Material data lacking.

12.2 Persistence and degradability

Material data lacking.

12.3 Bioaccumulative potential

Material data lacking.

12.4 Mobility in Soil

Material data lacking.

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1956	Compressed gas, n.o.s. (Air, Methane)	2.2	NDA	NDA
TDG	UN1956	COMPRESSED GAS, N.O.S. (Air, Methane)	2.2	NDA	NDA
IMO/IMDG	UN1956	COMPRESSED GAS, N.O.S. (Air, Methane)	2.2	NDA	NDA
IATA/ICAO	UN1956	Compressed gas, n.o.s (Air, Methane)	2.2	NDA	NDA

14.6 Special precautions for user

Cylinders should be transported in a secure position, in a well-ventilated vehicle. The
transportation of compressed gas cylinders in automobiles or in closed-body vehicles
can present serious safety hazards. If transporting these cylinders in vehicles, ensure
these cylinders are not exposed to extremely high temperatures (as may occur in an
enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated
during transportation.

14.7 Transport in bulk according to Annex II of

Not relevant.

MARPOL 73/78 and the IBC Code

Section 15 - Regulatory Information

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

SARA Hazard Classifications • Acute, Pressure(Sudden Release of)

State Right To Know					
Component	CAS	MA	NJ	PA	
Air	132259-10- 0	No	No	No	
Methane	74-82-8	Yes	Yes	Yes	

Inventory							
Component	CAS	Canada DSL	Canada NDSL	Ch	ina	EU EINECS	EU ELNICS
Air	132259-10- 0	No	No	Ye	es	No	No
Methane	74-82-8	Yes	No	Ye	es	Yes	No
			Inventory (Cor	n't.)			
Component			CAS		TSC	CA	
Air		133	2259-10-0			No	
Methane		74-	-82-8		Ye	S	

Canada

Canada - WHMIS - Classifications of Substances		
• Air	132259-10-0	A
Methane	74-82-8	A, B1
Canada - WHMIS - Ingredient Disclosure List		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

Environment Canada - CEPA - Priority Substances List		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

China

vironment China - Ozone Depleting Substances - First Schedule		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
China - Ozone Depleting Substances - Second Schedule		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

China - Ozone Depleting Substances - Third Schedule			
• Air	132259-10-0	Not Listed Not Listed	
Methane	74-82-8		
Other			
China - Annex I & II - Controlled Chemicals Lists			
• Air	132259-10-0	Not Listed	
Methane	74-82-8	Not Listed	
China - Dangerous Goods List			
• Air	132259-10-0	(compressed or refrigerated liquid)	
Methane	74-82-8	(compressed or refrigerated	

74-82-8

liquid)

China - Export Control List - Part I Chemicals

• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

Europe

Methane

her		
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification		
• Air	132259-10-0	Not Listed
Methane	74-82-8	F+; R12
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling		
• Air	132259-10-0	Not Listed
Methane	74-82-8	F+ R:12 S:(2)-9-16-33
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparati	ions	
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases		
• Air	132259-10-0	Not Listed
Methane	74-82-8	S:(2)-9-16-33

Germany

Germany - TA Luft - Types and Classes • Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
Germany - Water Classification (VwVwS) - Annex 1		
• Air	132259-10-0	Not Listed
		ID Number 1343, not
Methane	74-82-8	considered hazardous to water

Air Methane	132259-10-0 Not Listed 74-82-8 Not Listed
Germany - Water Classification (VwVwS) - Annex 3	
• Air	132259-10-0 Not Listed
Methane	74-82-8 Not Listed

Γ	┌ Other ────	
	Germany - Specifically Regulated Chemicals in TRGS	
	• Air	132259-10-0 Not Listed
	Methane	74-82-8 Not Listed
1		

Portugal

132259-10-0	Not Listed
74-82-8	Not Listed
	74-82-8

United Kingdom

United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air				
• Air	132259-10-0	Not Listed		
Methane	74-82-8	10000 kg		

Otner United Kingdom - Workplace Exposure Limits (WE	Ls) - Substances in Boylow	
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
United Kingdom - List of Dangerous Substances in	n Water	
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

United States

U.S OSHA - Process Safety Management - High	ly Hazardous Chemicals	
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S OSHA - Specifically Regulated Chemicals		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

.S CAA (Clean Air Act) - 1990 Hazardous Air Pollutants Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S CERCLA/SARA - Hazardous Substances and their Reportable	Quantities	
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

U.S CERCLA/SARA - Radionuclides and Their Reportable Quantities		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S CERCLA/SARA - Section 313 - Emission Reporting		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S CERCLA/SARA - Section 313 - PBT Chemical Listing		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed

United States - California

J.S California - Proposition 65 - Carcinogens List		
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S California - Proposition 65 - Developmental Toxicity		
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S California - Proposition 65 - No Significant Risk Levels (NSRL)		
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S California - Proposition 65 - Reproductive Toxicity - Female		
Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
J.S California - Proposition 65 - Reproductive Toxicity - Male		
Air	132259-10-0	Not Listed
• Methane	74-82-8	Not Listed

United States - Pennsylvania

Labor U.S Pennsylvania - RTK (Right to Know) - Environmental Hazard List		
• Air	132259-10-0	Not Listed
Methane	74-82-8	Not Listed
U.S Pennsylvania - RTK (Right to Know) - Special Hazardous Substances		
• Air	132259-10-0	Not Listed

Methane
 74-82-8
 Not Listed

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

 H220 - Extremely flammable gas R12 - Extremely flammable.

Last Revision Date
Preparation Date
Disclaimer/Statement

• 17/October/2014

17/October/2014

Disclaimer/Statement of Liability

• To the best of Air Liquide's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

Key to abbreviations NDA = No Data Available