



# 12C METHANE QG-APLHA (12C, 99.99%)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 16/08/2022

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Version: 1.0

CLM-392-ULN

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

### 1.1. Product identifier

Product form : Substance  
Substance name : 12C METHANE QG-APLHA (12C, 99.99%)  
EC Index-No. : 601-001-00-4 (Unlabeled)  
EC-No. : 200-812-7 (Unlabeled)  
CAS-No. : 74-82-8 (Unlabeled)  
Product code : CLM-392-ULN  
Formula : \*CH4

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

#### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only

#### 1.2.2. Uses advised against

No additional information available

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

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Gas 1 H220  
Press. Gas (Comp.) H280

Full text of hazard classes and H-statements : see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; R12  
R5

Full text of R-phrases: see section 16

#### GHS-US classification

Flam. Gas 1 H220  
Press. Gas (Comp.) H280

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

: Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 - Eliminate all ignition sources if safe to do so.  
P403 - Store in a well-ventilated place.  
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

EUH phrases :

: SA Simple Asphyxiant

#### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

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

Precautionary statements (GHS-US) :

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.  
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 - Eliminate all ignition sources if safe to do so.  
P403 - Store in a well-ventilated place.  
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

### 2.3. Other hazards

Other hazards not contributing to the classification

: May displace oxygen and cause rapid suffocation. Simple Asphyxiant.

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
12C METHANE QG-APLHA (12C, 99.99%)	(CAS-No.) 74-82-8 (Unlabeled) (EC-No.) 200-812-7 (Unlabeled) (EC Index-No.) 601-001-00-4 (Unlabeled)	100	F+; R12 R5
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
12C METHANE QG-APLHA (12C, 99.99%)	(CAS-No.) 74-82-8 (Unlabeled) (EC-No.) 200-812-7 (Unlabeled) (EC Index-No.) 601-001-00-4 (Unlabeled)	100	Flam. Gas 1, H220 Press. Gas (Comp.), H280

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
12C METHANE QG-APLHA (12C, 99.99%) (Main constituent)	(CAS-No.) 74-82-8 (Unlabeled)	100	Flam. Gas 1, H220 Press. Gas (Comp.), H280

Full text of H-phrases: see section 16

### 3.2. Mixtures

Not applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
- First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
- First-aid measures after skin contact : Wash off with soap and plenty of water. Consult a physician.
- First-aid measures after eye contact : Flush eyes with water as a precaution.
- First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

- Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
- Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.
- Symptoms/effects after eye contact : Contact may cause eye irritation.
- Symptoms/effects after ingestion : May be harmful if swallowed.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

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

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
- Other information : Use water spray to cool unopened containers.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

- For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.
- Methods for cleaning up : Clean up promptly by sweeping or vacuum.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

- Technical measures : Keep container tightly closed in a cool, dry and well-ventilated place.
- Storage conditions : Store at room temperature away from light and moisture.

#### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1000.00000000 ppm Remarks: Central Nervous System impairment. Cardiac sensitization. USA. ACGIH Threshold Limit Values (TLV) See Appendix F: Minimal Oxygen Content: Asphyxia 2015 Adoption.
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> 'Ca' in the presence of formaldehyde, acetaldehyde, or malonaldehyde. See Appendices A & C (Aldehydes). USA. NIOSH Recommended Exposure Limits. See Appendix F: Minimal Oxygen Content: Asphyxia 2015 Adoption.

#### 8.2. Exposure controls

- Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



- Materials for protective clothing : Wear suitable protective clothing and gloves.
- Hand protection : Wear suitable protective clothing and gloves.
- Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.
- Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### SECTION 9: Physical and chemical properties

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

- Physical state : Gas
- Appearance : Compressed Gas.
- Molecular mass : 16.03 g/mol (Labeled)
- Color : Colorless.
- Odor : No data available.
- Odor threshold : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : -183 °C (- 297 °F) - lit.
- Freezing point : No data available
- Boiling point : -161 °C (- 258 °F) - lit.
- Flash point : -188 °C (- 306.40 °F) - closed cup
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative vapor density at 20 °C : No data available
- Relative density : No data available
- Relative density of saturated gas/air mixture : g/c
- Solubility : No data available
- Log Pow : No data available
- Log Kow : No data available
- Viscosity, kinematic : No data available
- Viscosity, dynamic : No data available
- Explosive properties : No data available
- Oxidizing properties : No data available
- Explosion limits : No data available

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### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Heat, flames and sparks.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified No data available
Serious eye damage/irritation	: Not classified No data available
Respiratory or skin sensitization	: Not available No data available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified No data available
Specific target organ toxicity – repeated exposure	: Not classified No data available
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: Contact may cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

#### 12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))

Persistence and degradability	Not available.
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### 12.3. Bioaccumulative potential

#### 12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))

Bioaccumulative potential	Not available.
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### 12.4. Mobility in soil

#### 12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))

Ecology - soil	Not available.
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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Waste treatment methods : Burn in a chemical incinerator equipped with an afterburner and a scrubber, but use extra care in ignition as this material may be pyrophoric, highly flammable or explosive. Attention : national and/or local laws and regulations may preclude the use of this method.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No.(DOT) : 1971  
DOT NA no. UN1971

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Methane, compressed  
Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115  
Hazard labels (DOT) : 2.1 - Flammable gas



DOT Packaging Exceptions (49 CFR 173.xxx) : 306  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 302  
DOT Packaging Bulk (49 CFR 173.xxx) : 302  
Marine pollutant : No

### 14.3. Additional information

Other information : No supplementary information available.  
Special transport precautions : IATA/DOT: Not permitted on passenger aircraft.

### Overland transport

Class (ADR) : 2 - Gases  
Hazard identification number (Kemler No.) : 23  
Classification code (ADR) : 1F  
Hazard labels (ADR) : 2.1 - Flammable gases



Orange plates : An orange rectangular plate with a black border. The number "23" is written in black in the top half, and the number "1971" is written in black in the bottom half.

Tunnel restriction code (ADR) : B/D  
Limited quantities (ADR) : 0  
EAC : 2SE  
Excepted quantities (ADR) : E0

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### Transport by sea

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

MFAG-No : 115

### Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

Special transport precautions : IATA/DOT: Not permitted on passenger aircraft.

### 14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))

SARA Section 311/312 Hazard Classes	Fire hazard
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### 15.2. International regulations

#### CANADA

#### 12C METHANE QG-APLHA (12C, 99.99%) (74-82-8 (Unlabeled))

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

#### 12C METHANE QG-APLHA (12C, 99.99%)(74-82-8 (Unlabeled))

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	RTK - U.S. - Massachusetts - Right To Know List RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## SECTION 16: Other information

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Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

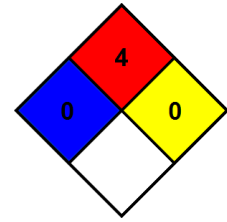
Full text of R-, H- and EUH-phrases:

Flam. Gas 1	Flammable gases Category 1
Press. Gas (Comp.)	Gases under pressure Compressed gas
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
	SA Simple Asphyxiant
R12	Extremely flammable
R5	Heating may cause an explosion
F+	Extremely flammable

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



### Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 4 Severe Hazard

Physical : 3 Serious Hazard

CIL Substance SDS

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*