# Carbon dioxide balance - Methane 12.51% - 24.9%

Safety Data Sheet P-18-22197

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Issue date: 06/02/2021 Version: 1.0

## SECTION: 1. Product and company identification

### 1.1. Product identifier

Product form : Mixture

Product name : Carbon dioxide balance - Methane 12.51% - 24.9%

Other means of identification : Mixture Carbon dioxide and Methane

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

Use of the substance/mixture : Industrial use; Use as directed.

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

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

### 1.4. Emergency telephone number

**Emergency number** : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24 hr/day 7 days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

## SECTION 2: Hazard identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

Flam. Gas 1 H220
Press. Gas (Liq.) H280
Simple asphyxiant SIAS

### 2.2. Label elements

**GHS US labelling**

Hazard pictograms (GHS US) :

GHS02 GHS04

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H220 - EXTREMELY FLAMMABLE GAS
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
CGA-HG03 - MAY INCREASE RESPIRATION AND HEART RATE.
CGA-HG01 - MAY CAUSE FROSTBITE.
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS US) : 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. 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.
P271+P403 - Use and store only outdoors or in a well-ventilated place.
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
P304, P340, P313 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
P261 - Avoid breathing gas, vapours
P262 - Do not get in eyes, on skin, or on clothing.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302, P336, P315 - IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area.. Get immediate medical advice/attention.

### 2.3. Other hazards

Other hazards which do not result in classification : Asphyxiant in high concentrations.

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % |
|---|---|---|
| Carbon dioxide | (CAS-No.) 124-38-9 | 75.1 – 87.49 |
| Methane | (CAS-No.) 74-82-8 | 12.51 – 24.9 |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.

First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

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

No additional information available

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

None.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide, Dry chemical, Water spray or fog. Use extinguishing media appropriate for surrounding fire.

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

Fire hazard : EXTREMELY FLAMMABLE GAS.

Explosion hazard : EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air and oxidizing agents.

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

### 5.3. Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with their provincial and local fire code regulations.

| | | |
|---|---|---|
| Protection during firefighting | : | Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen. **Danger! FLAMMABLE, HIGH PRESSURE GAS.**. |
| Special protective equipment for fire fighters | : | Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. |
| Other information | : | Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.). |

## SECTION 6: Accidental release measures

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

General measures : If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

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

No additional information available

### 6.4. Reference to other sections

See also sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment.

Wear leather safety gloves and safety shoes when handling cylinders. Protect containers from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

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

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post “No Smoking/No Open Flames” signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g, NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16.

Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

**OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Methane (74-82-8)** | |
|---|---|
| ACGIH | Not established |
| USA OSHA | Not established |

| **Carbon dioxide (124-38-9)** | | |
|---|---|---|
| ACGIH | ACGIH OEL TWA [ppm] | 5000 ppm |
| ACGIH | ACGIH OEL STEL [ppm] | 30000 ppm |
| USA OSHA | OSHA PEL TWA [1] | 9000 mg/m³ |
| USA OSHA | OSHA PEL TWA [2] | 5000 ppm |

### 8.2. Exposure controls

Appropriate engineering controls : Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. MECHANICAL (GENERAL): **Inadequate - Use only in a closed system.** Use explosion proof equipment and lighting. Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).

Eye protection : Wear safety glasses with side shields.

Skin and body protection : Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets or exceeds the requirements of the appropriate Health and Safety Regulations. Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections.

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Gas |
| Colour | : | Colourless |
| Odour | : | No data available |
| Odour threshold | : | No data available |
| pH | : | Not applicable. |
| Relative evaporation rate (butylacetate=1) | : | No data available |
| Relative evaporation rate (ether=1) | : | Not applicable. |
| Melting point | : | No data available |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Vapour pressure | : | Not applicable. |
| Relative vapour density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Solubility | : | Water: No data available |
| Partition coefficient n-octanol/water (Log Pow) | : | Not applicable. |
| Partition coefficient n-octanol/water (Log Kow) | : | Not applicable. |
| Viscosity, kinematic | : | Not applicable. |
| Viscosity, dynamic | : | Not applicable. |
| Explosive properties | : | Not applicable. |
| Oxidizing properties | : | None. |
| Explosive limits | : | No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

| Carbon dioxide balance - Methane 12.51% - 24.9% | |
|---|---|
| Persistence and degradability | No ecological damage caused by this product. |

| Methane (74-82-8) | |
|---|---|
| Persistence and degradability | The substance is readily biodegradable. Unlikely to persist. |

| Carbon dioxide (124-38-9) | |
|---|---|
| Persistence and degradability | No ecological damage caused by this product. |

### 12.3. Bioaccumulative potential

| Carbon dioxide balance - Methane 12.51% - 24.9% | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | Not applicable. |
| Partition coefficient n-octanol/water (Log Kow) | Not applicable. |
| Bioaccumulative potential | No ecological damage caused by this product. |

| Methane (74-82-8) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 1.09 |
| Bioaccumulative potential | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |

| Carbon dioxide (124-38-9) | |
|---|---|
| BCF - Fish [1] | (no bioaccumulation) |
| Partition coefficient n-octanol/water (Log Pow) | 0.83 |
| Partition coefficient n-octanol/water (Log Kow) | Not applicable. |
| Bioaccumulative potential | No ecological damage caused by this product. |

### 12.4. Mobility in soil

| Carbon dioxide balance - Methane 12.51% - 24.9% | |
|---|---|
| Mobility in soil | No data available. |

| Methane (74-82-8) | |
|---|---|
| Ecology - soil | Because of its high volatility, the product is unlikely to cause ground or water pollution. |

| Carbon dioxide (124-38-9) | |
|---|---|
| Mobility in soil | No data available. |
| Ecology - soil | No ecological damage caused by this product. |

### 12.5. Other adverse effects

Effect on the ozone layer : None.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

## SECTION 14: Transport information

In accordance with DOT

Transport document description (DOT) : UN3161 Liquefied gas, flammable, n.o.s., 2.1

UN-No.(DOT) : UN3161

Proper Shipping Name (DOT) : Liquefied gas, flammable, n.o.s.

Hazard labels (DOT) : 2.1 - Flammable gas


DOT Symbols : G - Identifies proper shipping name (PSN) requiring the addition of technical name(s) in parentheses following the PSN.

DOT Special Provisions (49 CFR 172.102) : T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

### Additional information

Other information : No supplementary information available.

Special transport precautions : 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 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.

### Transport by sea

UN-No. (IMDG) : 3161

Proper Shipping Name (IMDG) : LIQUEFIED GAS, FLAMMABLE, N.O.S.

Class (IMDG) : 2.1 - Flammable gases

### Air transport

UN-No. (IATA) : 3161

Proper Shipping Name (IATA) : LIQUEFIED GAS, FLAMMABLE, N.O.S.

Class (IATA) : 2

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

No additional information available

### 15.2. International regulations

#### CANADA

| **Methane (74-82-8)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

| **Carbon dioxide (124-38-9)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

| Carbon dioxide (124-38-9) |
|---|

**EU-Regulations**

**15.2.2. National regulations**
No additional information available

**15.3. US State regulations**

| Carbon dioxide balance - Methane 12.51% - 24.9%() | |
|---|---|
| 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 |

| Methane (74-82-8) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| No | No | No | No | |

| Carbon dioxide (124-38-9) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| No | No | No | No | |

| Methane (74-82-8) |
|---|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

| Carbon dioxide (124-38-9) |
|---|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Linde asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Linde Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

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*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.*