1. IDENTIFICATION

Product identifier
Product Name
METHANE (<=2.5%) in AIR

Other means of identification
Safety data sheet number
LIND-M0117
UN/ ID no.
UN1956

Recommended use of the chemical and restrictions on use
Recommended Use
Industrial and professional use.
Uses advised against
Consumer use

Details of the supplier of the safety data sheet
Linde Gas North America LLC - Linde Merchant Production Inc. - Linde LLC
575 Mountain Ave.
Murray Hill, NJ 07974
Phone: 908-464-8100
www.lindeus.com

Linde Gas Puerto Rico, Inc.
Road 869, Km 1.8
Barrio Palmas, Catano, PR 00962
Phone: 787-641-7445
www.pr.lindegas.com

Linde Canada Limited
5860 Chedworth Way
Mississauga, Ontario L5R 0A2
Phone: 905-501-1700
www.lindecanada.com

* May include subsidiaries or affiliate companies/divisions.

For additional product information contact your local customer service.

Emergency telephone number
Company Phone Number
800-232-4726 (Linde National Operations Center, US)
905-501-0802 (Canada)
CHEMTREC: 1-800-424-9300 (North America) +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION
OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

| Gases under pressure | Compressed gas |

Label elements

Signal word Warning

Hazard Statements
Contains gas under pressure; may explode if heated

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Use and store only outdoors or in a well ventilated place
Use a backflow preventive device in piping
Use only with equipment of compatible materials of construction and rated for cylinder pressure
Close valve after each use and when empty

Precautionary Statements - Response

Precautionary Statements - Storage
Protect from sunlight when ambient temperature exceeds 52°C/125°F

Hazards not otherwise classified (HNOC)
Supports combustion

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Volume %</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>132259-10-0</td>
<td>BALANCE</td>
<td>N/A</td>
</tr>
<tr>
<td>Methane</td>
<td>74-82-8</td>
<td>&lt;=2.5</td>
<td>CH₄</td>
</tr>
</tbody>
</table>

Composition covers range of mixtures that fall within the same hazard classifications.

4. FIRST AID MEASURES

Description of first aid measures

General advice    Show this safety data sheet to the doctor in attendance.
Inhalation        Remove to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If
breathing has stopped, give artificial respiration. Get medical attention immediately.

**Skin contact**
None under normal use. Get medical attention if symptoms occur.

**Eye contact**
None under normal use. Get medical attention if symptoms occur.

**Ingestion**
Not an expected route of exposure.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**
No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**
Treat symptomatically.

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### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Specific extinguishing methods**
Continue to cool fire exposed cylinders until flames are extinguished. Damaged cylinders should be handled only by specialists.

**Specific hazards arising from the chemical**
Non-flammable gas. Supports combustion. Cylinders may rupture under extreme heat.

**Hazardous combustion products**
Nitrogen oxides (NOx).

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas.

**Environmental precautions**
Prevent spreading of vapors through sewers, ventilation systems and confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment**
Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest Linde location.

**Methods for cleaning up**
Return cylinder to Linde or an authorized distributor.

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### 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**
Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distance, use a cart designed to transport cylinders. Never attempt to lift a cylinder
by its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Use only with adequate ventilation. Use a backflow preventive device in piping. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Ensure the complete gas system has been checked for leaks before use.

Never put cylinders into trunks of cars or unventilated areas of passenger vehicles. Never attempt to refill a compressed gas cylinder without the owner's written consent. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit.

Only experienced and properly instructed persons should handle gases under pressure. Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, pamphlet CGA-P1, Safe Handling of Compressed Gases in Containers.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions**

Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Keep at temperatures below 52°C / 125°F. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

**Incompatible materials**

None known.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane 74-82-8</td>
<td>TWA: 1000 ppm</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health

#### Appropriate engineering controls

**Engineering Controls**

Ventilation systems. Systems under pressure should be regularly checked for leakages.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin and body protection**

Work gloves and safety shoes are recommended when handling cylinders.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/ MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

**Product Information**

**Physical state**

Compressed gas
Appearance
Colorless.
Odor
Odorless.
Odor threshold
No information available
pH
No data available
Melting point
No data available
Evaporation rate
Not applicable
Flammability Limit in Air
(For Methane)
Lower flammability limit:
5%
Upper flammability limit:
15%
Flash point
No information available
Autoignition temperature
580 °C / 1076 °F (Methane)
Decomposition temperature
No data available
Partition coefficient
No data available
Kinematic viscosity
Not applicable

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Molecular weight</th>
<th>Boiling point</th>
<th>Vapor Pressure</th>
<th>Vapor density (air =1)</th>
<th>Gas Density kg/m³@20°C</th>
<th>Critical Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>28.975</td>
<td>-194.3 °C</td>
<td>Above critical temperature</td>
<td>1</td>
<td>1.204</td>
<td>-140.6 °C</td>
</tr>
<tr>
<td>Methane</td>
<td>16.04</td>
<td>-161.49 °C</td>
<td>Above critical temperature</td>
<td>0.56</td>
<td>0.6784</td>
<td>-82.10 °C</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None under recommended storage and handling conditions (see Section 7).

Incompatible materials
None known.

Hazardous Decomposition Products
Carbon monoxide (CO).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
No data available.
Skin contact
No data available.
Eye contact
No data available.
Ingestion
Not an expected route of exposure.
Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
Not classified.

Sensitization
Not classified.

Germ cell mutagenicity
Not classified.

Carcinogenicity
This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.

Reproductive toxicity
Not classified.

STOT - single exposure
Not classified.

STOT - repeated exposure
Not classified.

Aspiration hazard
Not applicable.

Numerical measures of toxicity

Component Level Information:
Product Information
Oral LD50
No information available
Dermal LD50
No information available
Inhalation LC50
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
No known acute aquatic toxicity.

Persistence and degradability
Not applicable.

Bioaccumulation
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Linde for proper disposal.

14. TRANSPORT INFORMATION

DOT
UN/ ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
Description UN1956, Compressed gas, n.o.s.(Air, Methane), 2.2
Emergency Response Guide Number 126

TDG
UN/ ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
Description UN1956, Compressed gas, n.o.s.(Air, Methane), 2.2

MEX
UN/ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
Description UN1956, Compressed gas, n.o.s.(Air, Methane), 2.2

IATA
UN/ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
ERG Code 2L
Description UN1956, Compressed gas, n.o.s.(Air, Methane), 2.2

IMDG
UN/ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
EmS-No. F-C, S-V
Special Provisions 274
Description UN1956, Compressed gas, n.o.s. (Air, Methane), 2.2

ADR
UN/ID no. UN1956
Proper shipping name Compressed gas, n.o.s.
Hazard Class 2.2
Classification code 1A
Tunnel restriction code (E)
Special Provisions 274, 655
Description UN1956, Compressed gas, n.o.s.(Air, Methane), 2.2, (E)
Labels 2.2

15. REGULATORY INFORMATION

International Inventories
TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden release of pressure hazard Yes
Reactive Hazard No
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Risk and Process Safety Management Programs
This material, as supplied, does not contain any regulated substances with specified thresholds under 40 CFR Part 68. This product does not contain any substances regulated as Highly Hazardous Chemicals pursuant to the 29 CFR Part 1910.110.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Toxic Substances</th>
<th>U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances</th>
<th>U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane</td>
<td></td>
<td>10000 lb</td>
<td></td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>74-82-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA
Health hazards 0  Flammability 0  Instability 0  Physical and Chemical Properties -

Note: Ratings were assigned in accordance with Compressed Gas Association (CGA) guidelines as published in CGA Pamphlet P-19-2009, CGA Recommended Hazard Ratings for Compressed Gases, 3rd Edition.

Issue Date 28-May-2015
Revision Date 28-May-2015
Revision Note Initial Release

General Disclaimer
For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between Linde LLC, Linde Merchant Production, Inc. or Linde Gas North America LLC (or any of their affiliates and subsidiaries) and the purchaser.

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suitability of the information for their particular purpose(s).

End of Safety Data Sheet