



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

SECTION: 1. Product and company identification

1.1. Product identifier

Product form : Substance
Substance name : Dimethylamine
CAS-No. : 124-40-3
Formula : C₂H₇N

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

Linde Inc.
10 Riverview Drive
Danbury, CT 06810-6268, USA
www.lindeus.com

Linde Inc. 1-844-44LINDE (1-844-445-4633)

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
Acute Tox. 4 (Inhalation:gas) H332
Skin Irrit. 2 H315
Eye Dam. 1 H318
STOT SE 3 H335
Aquatic Acute 3 H402

2.2. Label elements

GHS US labelling

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
H315 - CAUSES SKIN IRRITATION
H318 - CAUSES SERIOUS EYE DAMAGE.
H332 - HARMFUL IF INHALED
H402 - HARMFUL TO AQUATIC LIFE
CGA-HG01 - MAY CAUSE FROSTBITE.
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR
CGA-HG22 - CORROSIVE TO THE RESPIRATORY TRACT.

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.
P261 - Avoid breathing gas



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling
P271+P403 - Use and store only outdoors or in a well-ventilated place.
P273 - Avoid release to the environment.
P280+P284 - Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 - Call a poison center/doctor if you feel unwell
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor.
P332+P313 - IF SKIN IRRITATION OCCURS: Get medical advice/attention.
P303 - IF ON SKIN (or hair):
P336 - Thaw frosted parts with lukewarm water. Do not rub affected area.
P361 - Take off immediately all contaminated clothing.
P353 - Rinse skin with water/shower.
P363 - Wash contaminated clothing before reuse.
P313 - Get medical advice/attention.
P377 - LEAKING GAS FIRE: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P501 - Dispose of contents/container Dispose in a safe manner in accordance with local/national regulations
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-PG18 - When returning cylinder, install leak tight valve outlet cap or plug.

2.3. Other hazards

Other hazards which do not result in classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Dimethylamine (Main constituent)	(CAS-No.) 124-40-3	100

3.2. Mixtures

Not applicable

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 : Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

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.

First-aid measures after ingestion : If patient is fully conscious, give two glasses of milk or water at once. Ingestion unlikely. Do not induce vomiting. Call a physician. . Never give anything by mouth to an unconscious person.

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

No additional information available



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide, Dry chemical, Water spray or fog.

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 : Reacts violently with acids.

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 OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

DANGER! Flammable, corrosive, liquefied gas .

Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Other information : Cylinders are **NOT** equipped with a pressure relief valve.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : **DANGER! Flammable, corrosive, liquefied gas .** Forms explosive mixtures with air and oxidizing agents. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if safe to do so. Reduce vapors with fog or fine water spray, taking care not to spread liquid with water. Shut off flow if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable vapors may spread from leak and could explode if reignited by sparks or flames. Explosive atmospheres may linger. Before entering area, especially confined areas, check 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

Try to stop release. Reduce vapour with fog or fine water spray. Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with container supplier/owner instructions.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

No additional information available



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

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.

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

Dimethylamine (124-40-3)		
ACGIH	ACGIH OEL TWA [ppm]	5 ppm
ACGIH	ACGIH OEL STEL [ppm]	15 ppm
USA OSHA	OSHA PEL TWA [1]	18 mg/m ³
USA OSHA	OSHA PEL TWA [2]	10 ppm
USA IDLH	IDLH [ppm]	500 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.

Hand protection

- : Nitrile rubber (NBR).

Eye protection

- : Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.

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.



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

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).
Other information	: Consider the use of flame resistant anti-static safety clothing. Wear safety shoes while handling containers. Keep suitable chemically resistant protective clothing readily available for emergency use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colourless gas.
Molecular mass	: 45 g/mol
Colour	: Colourless.
Odour	: fishy ammonia-like
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	: -92.2 °C (-134 °F)
Freezing point	: No data available
Boiling point	: 6.9 °C (44.4 °F)
Flash point	: 20 °C (0 °F)
Critical temperature	: 164.6 °C (328.3 °F) (estimated using Joback/Lydersen method)
Auto-ignition temperature	: 430 °C (806 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: 2.8 – 14.4 vol %
Vapour pressure	: 1.79 bar 26.0 psia (at 21.1 °C (70 °F))
Critical pressure	: 52.4 bar (760.0 psia) (estimated using Joback/Lydersen method)
Relative vapour density at 20 °C	: No data available
Relative density	: 0.679 (water = 1) (at 0 °C (32 °F))
Relative density of saturated gas/air mixture	: 1.56 (air = 1) (at 15 °C (59 °F) and 1atm)
Density	: 0.66 g/cm ³ (at 20 °C)
Relative gas density	: 1.5
Solubility	: Water: 23.7 % by weight at 60 °C (140 °F)
Partition coefficient n-octanol/water (Log Pow)	: -0.38
Partition coefficient n-octanol/water (Log Kow)	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: MAY FORM EXPLOSIVE MIXTURES WITH AIR.
Oxidizing properties	: None.
Explosive limits	: No data available

9.2. Other information

Gas group	: Press. Gas (Liq.)
Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with acids.



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May occur.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Aluminium. Copper. Magnesium. Mercury. Tin. Zinc. and their alloys. Nickel. Acids. Oxidizing agents. Nitrous oxide. **Forms carcinogenic nitrosamines** in reaction with nitrous acid, nitrites and nitrous oxide vapors.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitric oxide/nitrogen dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : HARMFUL IF INHALED.

Dimethylamine (f)124-40-3	
LD50 oral rat	698 mg/kg
LD50 dermal rat	3900 mg/kg
LC50 Inhalation - Rat [ppm]	11000 ppm/1h
ATE US (oral)	698 mg/kg bodyweight
ATE US (dermal)	3900 mg/kg bodyweight
ATE US (gases)	5500 ppmv/4h

Skin corrosion/irritation : CAUSES SKIN IRRITATION.
pH: Not applicable.

Serious eye damage/irritation : CAUSES SERIOUS EYE DAMAGE.
pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : MAY CAUSE RESPIRATORY IRRITATION.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Dimethylamine (124-40-3)	
LC50 - Fish [1]	111 – 125 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	88.7 mg/l (Exposure time: 48 h - Species: Daphnia magna Straus)
LC50 - Fish [2]	120 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

12.2. Persistence and degradability

Dimethylamine (124-40-3)	
Persistence and degradability	The substance is readily biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

Dimethylamine (124-40-3)	
Partition coefficient n-octanol/water (Log Pow)	-0.38
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). See section 9.

12.4. Mobility in soil

Dimethylamine (124-40-3)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Other adverse effects	: May cause pH changes in aqueous ecological systems.
Effect on the ozone layer	: None.
Effect on global warming	: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: U.S. - RCRA (Resource Conservation Recovery Act) - U Series Wastes - Acutely Toxic Wastes Other Hazardous Characteristics.
Product/Packaging disposal recommendations	: Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

In accordance with DOT	
Transport document description (DOT)	: UN1032 Dimethylamine, anhydrous, 2.1
UN-No.(DOT)	: UN1032
Proper Shipping Name (DOT)	: Dimethylamine, anhydrous
Class (DOT)	: 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard labels (DOT)	: 2.1 - Flammable gas



DOT Special Provisions (49 CFR 172.102)	: N87 - The use of copper valves on UN pressure receptacles is prohibited. 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

Emergency Response Guide (ERG) Number	: 118 (UN1032);132 (UN1160)
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)	: 1032
---------------	--------



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

Proper Shipping Name (IMDG) : DIMETHYLAMINE, ANHYDROUS
Class (IMDG) : 2 - Gases
Division (IMDG) : 2.1 - Flammable gases
MFAG-No : 118

Air transport

UN-No. (IATA) : 1032
Proper Shipping Name (IATA) : Dimethylamine, anhydrous
Class (IATA) : 2 - Gases
Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

SECTION 15: Regulatory information

15.1. US Federal regulations

Dimethylamine (124-40-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 lb
-----------	---------

SARA Section 313 - Emission Reporting	1 %
---------------------------------------	-----

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Dimethylamine	CAS-No. 124-40-3	100%
---------------	------------------	------

15.2. International regulations

CANADA

Dimethylamine (124-40-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Dimethylamine (124-40-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Dimethylamine (124-40-3)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

15.3. US State regulations

Dimethylamine(124-40-3)	
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	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm



Dimethylamine

Safety Data Sheet P-4588

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

Issue date: 01/01/1980 Revision date: 06/09/2022 Supersedes: 01/27/2021 Version: 1.1

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.

Linde SDSs are furnished on sale or delivery by Linde or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your sales representative, local distributor, or supplier, or download from www.lindeus.com. If you have questions regarding Linde SDSs, would like the document number and date of the latest SDS, or would like the names of the Linde suppliers in your area, phone or write the Linde Call Center (Phone: 1-844-44-Linde (1-844-445-4633); Address: Linde Call Center, Linde Inc, P.O. Box 44, Tonawanda, NY 14151-0044).

Linde and the Linde wordmark are trademarks or registered trademarks of Linde Inc. or its affiliates. The information contained herein is offered for use by technically qualified personnel at their discretion and risk without warranty of any kind.

Copyright © 2022, Linde Inc.

Revision date

: 06/09/2022

NFPA health hazard

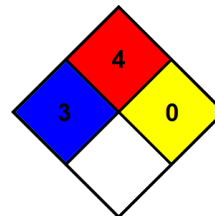
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

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 instability

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



SDS US (GHS HazCom 2012) - Linde 2022

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.