

Safety Data Sheet

Air, Compressed

Issue date: 07/12/2022
Revision date: 25/10/2024


Version: 1.2

SDS reference: MY000334
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SECTION 1: Identification of the hazardous chemical and of the supplier

- 1.1. Product identifier**
- Product form: Mixture
- Trade name:
1. Synthetic Air
 2. Linde Medicinal Air 100% v/v
 3. Air, Compressed (Purified)
 4. Air, Compressed (UHP)
- CAS-No.: 132259-10-0
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
- Recommended use: Industrial use
- Restrictions on use: None.
- 1.3. Supplier's details**
- Supplier**
- Linde Gas Products Malaysia Sdn Bhd (453560-K)
P.O. Box 10633, GPO Kuala Lumpur, 50670 WPKL.
No. 1, Jalan Graphite 3, Kawasan Perindustrian Bandar Mahkota Banting,
42700 Banting, Kuala Langat, Selangor Darul Ehsan.
Toll Free: 1800 883 888 / +603 5651 7000
csc.lg.my@linde.com
- Or**
- Linde EOX Sdn. Bhd.
Lot 36, Section 66, Jalan Peteri, Bintawa Industrial Estate,
93450 Kuching, Sarawak.
Toll Free: 1800 883 888 / +603 5651 7000
csc.lg.my@linde.com
- 1.4. Emergency telephone number**
- Emergency phone number (24h): 1800 883 888
Poison center : Unit HAZMAT Malaysia, tel: 999

SECTION 2: Hazards identification

- 2.1. Classification of the hazardous chemical**
- Classification according to Industry Code of Practice on chemicals classification and hazard communication (2014)
- Press. Gas (Comp.) H280
- 2.2. Label elements**
- Labelling according to Industry Code of Practice on chemicals classification and hazard communication (2014)
- Hazard pictograms (GHS MY) :
- 
- GHS04
- Signal word (GHS MY) : Warning
- Hazard statements (GHS MY) : H280 - Contains gas under pressure; may explode if heated
- Precautionary statements (GHS MY)
- Storage : P410+P403 - Protect from sunlight. Store in a well-ventilated place
- 2.3. Other hazards not contributing to the classification**
- Other hazards which do not result in classification: None.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

- 3.1. Substances**
- Not applicable
- 3.2. Mixtures**



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SECTION 4: First aid measures

- 4.1. Description of first aid measures
- First-aid measures general : If you feel unwell, seek medical advice.
 - First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Adverse effects not expected from this product.
 - First-aid measures after skin contact : Adverse effects not expected from this product. Wash skin with plenty of water.
 - First-aid measures after eye contact : Adverse effects not expected from this product. Rinse eyes with water as a precaution.
 - First-aid measures after ingestion : Ingestion is not considered a potential route of exposure. Call a poison center or a doctor if you feel unwell.
- 4.2. Most important symptoms and effects, both acute and delayed
- Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
 - Symptoms/effects after skin contact : None under normal conditions. Contact with the liquefied gas may cause frostbite.
 - Symptoms/effects after eye contact : None under normal conditions. Contact with the liquefied gas may cause severe ocular lesions.
 - Symptoms/effects after ingestion : None under normal conditions.
 - Most important symptoms and effects, both acute and delayed : No effect on living tissue. See section 11.
- 4.3. Indication of any immediate medical attention and special treatment needed
- Other medical advice or treatment : Treat symptomatically. None.

SECTION 5: Fire-fighting measures

- 5.1. Extinguishing media
- Suitable extinguishing media : Water spray or fog. Water spray. Dry powder. Foam.
 - Unsuitable extinguishing media : Do not use water jet to extinguish.
- 5.2. Special hazards arising from the substance or mixture
- Fire hazard : No fire hazard.
 - Explosion hazard : No direct explosion hazard.
 - Reactivity : No reactivity hazard other than the effects described in sub-sections below. Data for mixtures are not available.
 - Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.
 - Hazardous combustion products : None.
- 5.3. Special protective equipment and precautions for fire-fighters
- Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
 - Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
 - Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters. EN 15090 Footwear for firefighters. EN 443 Helmets for fire fighting in buildings and other structures. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
 - Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.
 - EAC code : 2T



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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. Act in accordance with local emergency plan. Stay upwind.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Act in accordance with local emergency plan. Ventilate spillage area. See section 8 of the SDS for more information on personal protective equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Avoid release to the environment. None.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible.

Methods and material for containment and cleaning up : None.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the content of the container. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

Safe use of the product : Do not breathe gas. The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Use only oxygen approved lubricants and oxygen approved sealings. Avoid suck back of water, acid and alkalis.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Protect from sunlight. Store in a well-ventilated place.

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Conditions for safe storage, including any incompatibilities : Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values for the other components

No additional information available

8.2. Monitoring

8.3. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider the use of a work permit system e.g. for maintenance activities.

8.4. Personal protective equipment

Wear safety shoes while handling containers.

Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

Hand protection:

Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher. Recommended types include wrist gloves from leather or synthetic material with equivalent performance, fabric gloves, fabric gloves with leather palms.

Eye protection:

Safety glasses. Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection - specifications

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD. None necessary.



Thermal hazard protection : None in addition to the above sections.

Environmental exposure controls : None necessary. Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state : Gas

Appearance : No data available

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Colour	: Colourless
Odour	: Odourless.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable for gases and gas mixtures.
Melting point, Freezing point	: Melting point: Not known.
Boiling point	: Not applicable for gas mixtures.
Flash point	: Not applicable for gases and gas mixtures.
Critical temperature	: Not known.
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.
Flammability	: Non flammable.
Vapour pressure	: Vapour pressure: Not applicable. Vapour pressure at 50°C: Not applicable.
Evaporation rate	: Relative evaporation rate (ether=1): Not applicable for gases and gas mixtures.
Explosive limits	: Not known.
Lower explosion limit	: Not applicable.
Upper explosion limit	: Not applicable.
Explosive properties	: Not applicable.
Minimum ignition energy	: No data available
Solubility	: Water: No reliable data available.
Density	: Density: Not applicable for gases and gas mixtures. Relative density: Not applicable.
Relative density	: Relative vapour density at 20°C: Not applicable for gases and gas mixtures. Relative gas density: 1
Viscosity	: Viscosity, dynamic: No reliable data available. Viscosity, kinematic: 1No reliable data available.
Partition coefficient n-octanol/water (Log Pow)	: Not applicable for gas mixtures.
Molecular mass	: 29 g/mol
Oxidising properties	: Not applicable.

SECTION 10: Stability and reactivity

Chemical stability	: Stable under normal conditions.
Conditions to avoid	: Avoid moisture in installation systems. this mixture contains components that have the following conditions to avoid: None.
Hazardous decomposition products	: None.
Incompatible materials	: None. For additional information on compatibility refer to ISO 11114. this mixture contains components that have the following incompatible materials: Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (> 30 bar) oxygen lines in case of combustion. Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at http://www.eiga.eu . May react violently with combustible materials. May react violently with reducing agents.
Possibility of hazardous reactions	: None. this mixture contains components that have the following possible hazardous reaction : Violently oxidises organic material.
Reactivity	: No reactivity hazard other than the effects described in sub-sections below,Data for mixtures are not available

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion or irritation	: Not classified
	pH: Not applicable for gases and gas mixtures.
Serious eye damage or eye irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (STOT) – single exposure	: Not classified
Specific target organ toxicity (STOT) – repeated exposure	: Not classified
Aspiration hazard	: Not applicable

1. Synthetic Air 2. Linde Medicinal Air 100% v/v 3. Air, Compressed (Purified) 4. Air, Compressed (UHP) (132259-10-0)	
Viscosity, kinematic (calculated value) (40 °C)	No reliable data available.
Other information	: The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity	
Ecology - general	: No ecological damage caused by this product.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

1. Synthetic Air 2. Linde Medicinal Air 100% v/v 3. Air, Compressed (Purified) 4. Air, Compressed (UHP) (132259-10-0)	
Partition coefficient n-octanol/water (Log Kow)	Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.

12.2. Persistence and degradability

1. Synthetic Air 2. Linde Medicinal Air 100% v/v 3. Air, Compressed (Purified) 4. Air, Compressed (UHP) (132259-10-0)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

1. Synthetic Air 2. Linde Medicinal Air 100% v/v 3. Air, Compressed (Purified) 4. Air, Compressed (UHP) (132259-10-0)	
Partition coefficient n-octanol/water (Log Pow)	See section 12.1 on ecotoxicology
Partition coefficient n-octanol/water (Log Kow)	See section 12.1 on ecotoxicology



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Bioaccumulative potential	No data available.
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12.4. Mobility in soil

1. Synthetic Air
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Mobility in soil	No additional information available
Partition coefficient n-octanol/water (Log Pow)	See section 12.1 on ecotoxicology
Partition coefficient n-octanol/water (Log Kow)	See section 12.1 on ecotoxicology
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Other adverse effects

Ozone	: Not classified
GWPmix comment	: No known effects from this product.
Effect on the ozone layer	: None.
Other adverse effects	: No known effects from this product.

SECTION 13: Disposal information

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions. Do not discharge into any place where its accumulation could be dangerous. May be vented to atmosphere. May be vented to atmosphere in a well ventilated place. Return unused product in original container to supplier.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: External treatment and disposal of waste should comply with applicable local and/or national regulations. Do not re-use empty containers. { Refer to the EIGA code of practice (Doc.30 "Disposal of Gases", downloadable at http://www.eiga.org) for more guidance on suitable disposal methods. Dispose of container via supplier only. Discharge, treatment, or disposal may be subject to national, state, or local laws.

SECTION 14: Transportation information

14.1. UN number

UN-No.(UN RTDG)	: 1002
UN-No. (IMDG)	: 1002
UN-No. (IATA)	: 1002

14.2. Proper Shipping Name

Proper Shipping Name (UN RTDG)	: AIR, COMPRESSED
Proper Shipping Name (IMDG)	: AIR, COMPRESSED
Proper Shipping Name (IATA)	: Air, compressed

14.3. Transport hazard class(es)

UN RTDG	
Transport hazard class(es) (UN RTDG)	: 2.2
Danger labels (UN RTDG)	: 2.2

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IMDG

Transport hazard class(es) (IMDG) : 2.2

Danger labels (IMDG) : 2.2



IATA

Transport hazard class(es) (IATA) : 2.2

Danger labels (IATA) : 2.2



14.4. Packing group

Packing group (UN RTDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

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.

- UN RTDG

Special provisions (UN RTDG) : 392, 397

Limited quantities (UN RTDG) : 120 ml

Excepted quantities (UN RTDG) : E1

Packing instruction (UN RTDG) : P200

- IMDG

Special provisions (IMDG) : 392, 397



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Limited quantities (IMDG) : 120 ml
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P200
EmS-No. (Fire) : F-C - FIRE SCHEDULE Charlie - NON-FLAMMABLE GASES
EmS-No. (Spillage) : S-V - SPILLAGE SCHEDULE Victor - GASES (NON-FLAMMABLE, NON-TOXIC)
Stowage category (IMDG) : A
Properties and observations (IMDG) : Non-flammable gas.

- IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 200
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 200
CAO max net quantity (IATA) : 150kg
Special provisions (IATA) : A221, A302
ERG code (IATA) : 2L

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

IBC code : Not applicable.

14.8. Hazchem or Emergency Action Code

EAC code : 2T.

SECTION 15: Regulatory information

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

Occupational Safety and Health Act 1994 and relevant regulations:

Occupational Safety and Health (Classification, Labeling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

Environment Quality Act 1974 & regulations:

Environment Quality (Clean Air) Regulations 2014.
Environmental Quality (Scheduled Wastes) Regulations 2005.

15.2. Chemical safety assessment

SECTION 16: Other information

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Abbreviations and acronyms

: ATE - Acute Toxicity Estimate
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
EINECS - European Inventory of Existing Commercial Chemical Substances
CAS# - Chemical Abstract Service number
PPE - Personal Protection Equipment
LC50 - Lethal Concentration to 50 % of a test population
RMM - Risk Management Measures
PBT - Persistent, Bioaccumulative and Toxic
vPvB - Very Persistent and Very Bioaccumulative
STOT- SE : Specific Target Organ Toxicity - Single Exposure
CSA - Chemical Safety Assessment
EN - European Standard
UN - United Nations
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA - International Air Transport Association
IMDG code - International Maritime Dangerous Goods
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
WGK - Water Hazard Class
STOT - RE : Specific Target Organ Toxicity - Repeated Exposure

Training advice

: None.

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.