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PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN

Safety Data Sheet LIND-M0166

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

Issue date: 05/05/2015

Revision date: 02/23/2022 Supersedes: 03/30/2021

Version: 1.4

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Mixture
Product name : PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN

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

Use of the substance/mixture : Electronic
Industrial and professional use

1.3. Details of the supplier of the safety data sheet

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

Electronics gas products 1-800-932-0624 or 1-908-329-9700
Linde Inc. 1-844-44LINDE (1-844-445-4633)

For additional product information contact your local customer service.

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

Pyr. Gas	H250
Flam. Gas 1	H220
Press. Gas (Comp.)	H280
Acute Tox. 2 (Inhalation: gas)	H330
Skin Corr. 1B	H314
Eye Dam. 1	H318

2.2. Label elements

GHS US labelling

Hazard pictograms (GHS US) :



GHS02

GHS04

GHS05

GHS06

Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H220 - EXTREMELY FLAMMABLE GAS
H250 - **CATCHES FIRE SPONTANEOUSLY IF EXPOSED TO AIR**
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
H314 - CAUSES SEVERE SKIN BURNS AND EYE DAMAGE
H330 - FATAL IF INHALED
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR
CGA-HG11 - SYMPTOMS MAY BE DELAYED



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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.
P260 - Do not breathe gas/vapours
P264 - Wash exposed skin thoroughly after handling
P280+P284 - Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face protection.
P233 - Keep container tightly closed.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN OR (HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 - Immediately call a POISON CENTER/doctor.
P305, P351, P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 - Wash contaminated clothing before reuse.
P377 - LEAKING GAS FIRE: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with container Supplier/owner instructions
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-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG20+CGA-PG10 - Use only with equipment of compatible materials of construction and rated for cylinder pressure.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).
CGA-PG17 - Use only with equipment purged with inert gas or evacuated prior to discharge from cylinder.
CGA-PG18 - When returning cylinder, install leak tight valve outlet cap or plug.
P222 - Do not allow contact with air.
P308+P313 - If exposed or concerned: Get 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	%
Argon	(CAS-No.) 7440-37-1	0 – 95
Helium	(CAS-No.) 7440-59-7	0 – 95
Nitrogen	(CAS-No.) 7727-37-9	0 – 95
Phosphine	(CAS-No.) 7803-51-2	5 – 9.99

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Treat symptomatically.
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.



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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

Symptoms/effects : Fatal if inhaled. Inhalation may cause severe respiratory irritation and pulmonary edema. Symptoms of overexposure can include headache, coughing, shortness of breath, wheezing, phlegm, abdominal pain, nausea, vomiting, thirst, drowsiness, double vision, dizziness, tremors, and coma. Symptoms may be delayed. Ignited gas can cause thermal burns. Irritating to eyes, respiratory system and skin.

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

Obtain medical assistance.

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 : CATCHES FIRE SPONTANEOUSLY IF EXPOSED TO AIR. May form explosive mixtures with air. Low ignition energy. Will be easily ignited by heat, sparks or flames. Evolves hydrogen and ignites on contact with many materials. Vapors may travel to source of ignition and flash back. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Cylinders may rupture under extreme heat.

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.

Specific methods : If possible, stop the flow of gas. Do not extinguish the fire until supply is shut off as otherwise an explosive-ignition may occur. If the fire is extinguished and the flow of gas continues, use increased ventilation to prevent build-up of explosive atmosphere. Ventilation fans must be explosion proof. Use non-sparking tools to close container valves. Use water spray to cool surrounding containers. Be cautious of a Boiling Liquid Evaporating Vapor Explosion, BLEVE, if flame is impinging on surrounding containers. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Damaged cylinders should be handled only by specialists.

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.



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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 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.



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7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Phosphine (7803-51-2)		
ACGIH	ACGIH OEL TWA [ppm]	0.05 ppm
ACGIH	ACGIH OEL C [ppm]	0.15 ppm
USA OSHA	OSHA PEL TWA [1]	0.4 mg/m ³
USA OSHA	OSHA PEL TWA [2]	0.3 ppm
Argon (7440-37-1)		
ACGIH	Not established	
USA OSHA	Not established	
Helium (7440-59-7)		
ACGIH	Not established	
USA OSHA	Not established	
Nitrogen (7727-37-9)		
ACGIH	Not established	
USA OSHA	Not established	

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	: Provide readily accessible eye wash stations and safety showers. 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	: Repulsive
Odour threshold	: 0.51 ppm (Phosphine)
pH	: Not applicable.
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: No data available

EN (English)

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Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: 38 °C (Phosphine)
Decomposition temperature	: No data available
Flammability (solid, gas)	: 1.8 – 98 vol % (Phosphine)
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

Catches fire spontaneously if exposed to air. Combines violently with oxygen and halogens. Evolves hydrogen and ignites on contact with many materials.

10.4. Conditions to avoid

Avoid moisture in installation systems. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Phosphine liberates hydrogen and forms phosphide when passed over heated metal.

10.5. Incompatible materials

Phosphine is incompatible with: Bases. Halogens. Nitrates. Nitrogen trichloride.

10.6. Hazardous decomposition products

Phosphorus and hydrogen at approximately 1100°F (600°C).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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ATE US (gases)	100.1 ppmv/4h
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Additional information

Acute over-exposures to this gas mixture can be dangerous due to presence of Phosphine. Non-lethal exposures may result in the following symptoms: lacrymation (watery eyes), substernal chest pain, chest tightness, shortness of breath, a slight cough, and cyanosis. Such exposures can cause gastrointestinal tract irritation and central nervous system effects. Abdominal symptoms include nausea, vomiting, severe epigastric pain, and diarrhea. Neurologic symptoms include vertigo, headache, restlessness, involuntary tremors, lack of muscular coordination, double vision, drowsiness, and a decreased sensation in the extremities. Death can occur in humans after exposure as low as 8 ppm of Phosphine for 1-2 hours. Inhalation may cause severe respiratory irritation and pulmonary edema. Symptoms of overexposure can include headache, coughing, shortness of breath, wheezing, phlegm, abdominal pain, nausea, vomiting, thirst, drowsiness, double vision, dizziness, tremors, and coma. Symptoms may be delayed. Irritating to eyes, respiratory system and skin.

Phosphine (7803-51-2)

LC50 Inhalation - Rat [ppm]

20 ppm/1h

ATE US (gases)

10 ppmv/4h

Skin corrosion/irritation	: CAUSES SEVERE SKIN BURNS. 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	: Not classified
STOT-repeated exposure	: Not classified

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Additional information

May cause adverse liver and kidney effects. Chronic absorption of phosphine may be associated with disturbances of sight, speech and motor functions.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Phosphine (7803-51-2)

LC50 - Fish [1]

≈ 4.68 µg/l

EC50 - Crustacea [1]

≈ 0.11 mg/l

12.2. Persistence and degradability

PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN

Persistence and degradability

No ecological damage caused by this product.

Phosphine (7803-51-2)

Persistence and degradability

Not applicable for inorganic products.

Argon (7440-37-1)

Persistence and degradability

No ecological damage caused by this product.

Helium (7440-59-7)

Persistence and degradability

No ecological damage caused by this product.

Nitrogen (7727-37-9)

Persistence and degradability

No ecological damage caused by this product.



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12.3. Bioaccumulative potential

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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.
Phosphine (7803-51-2)	
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.
Argon (7440-37-1)	
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.
Helium (7440-59-7)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.
Nitrogen (7727-37-9)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN	
Mobility in soil	No data available.
Phosphine (7803-51-2)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.
Argon (7440-37-1)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.
Helium (7440-59-7)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.
Nitrogen (7727-37-9)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems.
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.



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SECTION 14: Transport information

In accordance with DOT

- Transport document description (DOT) : UN1953 Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B), 2.3
- UN-No.(DOT) : UN1953
- Proper Shipping Name (DOT) : Compressed gas, toxic, flammable, n.o.s.
Inhalation Hazard Zone B
- Hazard labels (DOT) : 2.3 - Poison gas
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) : 2 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone B (see 173.116(a) or 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
B9 - Bottom outlets are not authorized.
B14 - Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5 C (60 F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet.

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) : 1953
- Proper Shipping Name (IMDG) : COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.
- Class (IMDG) : 2.3 - Toxic gases
- EmS-No. (1) : F-D
- EmS-No. (2) : S-U

Air transport

- UN-No. (IATA) : 1953
- Proper Shipping Name (IATA) : COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.
- Class (IATA) : 2 - Gases

SECTION 15: Regulatory information

15.1. US Federal regulations

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



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Phosphine (7803-51-2)

Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 313 - Emission Reporting	1 %

15.2. International regulations

CANADA

Phosphine (7803-51-2)

Listed on the Canadian DSL (Domestic Substances List)

Argon (7440-37-1)

Listed on the Canadian DSL (Domestic Substances List)

Helium (7440-59-7)

Listed on the Canadian DSL (Domestic Substances List)

Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Phosphine (7803-51-2)

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

15.2.2. National regulations

Phosphine (7803-51-2)

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
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on EPA Hazardous Air Pollutant (HAPS)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN()

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



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PHOSPHINE (5% -<10%) in ARGON, HELIUM or NITROGEN

Safety Data Sheet LIND-M0166

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

Issue date: 05/05/2015

Revision date: 02/23/2022 Supersedes: 03/30/2021

Version: 1.4

Phosphine (7803-51-2)				
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	

Argon (7440-37-1)				
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	

Helium (7440-59-7)				
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	

Nitrogen (7727-37-9)				
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	

Phosphine (7803-51-2)				
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				

Argon (7440-37-1)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				

Helium (7440-59-7)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				

Nitrogen (7727-37-9)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				



Making our world
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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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Revision date

: 02/23/2022

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.