Nitrogen balance - Chloroform 0.1% - 0.999%

Safety Data Sheet P-18-20932

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

Issue date: 06/02/2021 Version: 1.0

SECTION: 1. Product and company identification

1.1. Product identifier

Product form : Mixture

Product name : Nitrogen balance - Chloroform 0.1% - 0.999%

Other means of identification : Mixture of Chloroform and Nitrogen

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

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

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone number

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

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

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Press. Gas (Comp.) H280
Carc. 1B H350

2.2. Label elements

GHS US labelling

Hazard pictograms (GHS US) :

GHS04 GHS08

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H350 - MAY CAUSE CANCER.
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
P201 - Obtain special instructions before use.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.
P271+P403 - Use and store only outdoors or in a well-ventilated place.
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

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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	%
Nitrogen	(CAS-No.) 7727-37-9	99.001 – 99.9
Chloroform	(CAS-No.) 67-66-3	0.1 – 0.999

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped. 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 eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.

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

No additional information available

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

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.

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

Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by TC.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate air ventilation. Evacuate area. Monitor concentration of released product.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

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

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

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chloroform (67-66-3)		
ACGIH	ACGIH OEL TWA [ppm]	10 ppm
USA OSHA	OSHA PEL C	240 mg/m³
USA OSHA	OSHA PEL C [ppm]	50 ppm

Nitrogen (7727-37-9)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : Alarm detectors should be used when toxic gases may be released. Product to be handled in a closed system and under strictly controlled conditions. Preferably use permanent leak-tight installations (e.g. welded pipes). Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation.

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Eye protection	:	Wear safety glasses with side shields.
Skin and body protection	:	Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible.
Respiratory protection	:	When workplace conditions warrant respirator use, follow a respiratory protection program that meets or exceeds the requirements of the appropriate Health and Safety Regulations. Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA). Keep self contained breathing apparatus readily available for emergency use. Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
Thermal hazard protection	:	Wear cold insulating gloves when transfilling or breaking transfer connections.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Chloroform (67-66-3)	
LD50 oral rat	450 mg/kg
LD50 dermal rabbit	> 20 g/kg
LC50 Inhalation - Rat	47702 mg/m³ (Exposure time: 4 h)
LC50 Inhalation - Rat [ppm]	63602 ppm/1h
ATE US (oral)	450 mg/kg bodyweight
ATE US (gases)	700 ppmv/4h
ATE US (vapours)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : MAY CAUSE CANCER.

Chloroform (67-66-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Chloroform (67-66-3)	
LC50 - Fish [1]	71 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	29 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	18 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

12.2. Persistence and degradability

Nitrogen balance - Chloroform 0.1% - 0.999%	
Persistence and degradability	No ecological damage caused by this product.

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Nitrogen (7727-37-9)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Nitrogen balance - Chloroform 0.1% - 0.999%	
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.

Chloroform (67-66-3)	
BCF - Fish [1]	1.4 – 13
Partition coefficient n-octanol/water (Log Pow)	2 (at 25 °C)

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

Nitrogen balance - Chloroform 0.1% - 0.999%	
Mobility in soil	No data available.

Nitrogen (7727-37-9)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on the ozone layer : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

In accordance with DOT

Transport document description (DOT) : UN1956 Compressed gas, n.o.s., 2.2

UN-No.(DOT) : UN1956

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

Hazard labels (DOT) : 2.2 - Non-flammable gas

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

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.

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Transport by sea

UN-No. (IMDG) : 1956
Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.
Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

Air transport

UN-No. (IATA) : 1956
Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Chloroform (67-66-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb
SARA Section 313 - Emission Reporting	0.1 %

15.2. International regulations

CANADA

Chloroform (67-66-3)
Listed on the Canadian DSL (Domestic Substances List)

Nitrogen (7727-37-9)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Chloroform (67-66-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Chloroform (67-66-3)
Listed on the AICS (Australian Inventory of Chemical Substances) 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 EPA Hazardous Air Pollutant (HAPS) Listed on the TCSI (Taiwan Chemical Substance Inventory)

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15.3. US State regulations

Nitrogen balance - Chloroform 0.1% - 0.999%()	
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

Chloroform (67-66-3)				
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)
Yes	Yes	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	

Chloroform (67-66-3)

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) - Special Hazardous Substances
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

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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.

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