PTG-4588

Safety Data Sheet PTG-4588

Prepared in accordance with the model Work Health and Safety Regulations

Date of issue: 11/16/2023 Revision date: 08/10/2024 Version: 1.1

SECTION: 1. Product and company identification

1.1. Product identifier

Product form : Mixture

Product name : PTG-4588

Formula : (0.0001 - 0.5 %) OCTANE, (0.0001 - 0.01 %) HEPTANE, (0.0001 - 0.1 %) BENZENE, (0.0001 - 0.01 %) HEXANE, (0.0001 - 0.1 %) TOLUENE (<100 %)HELIUM (0.0001 - 0.5 %) ETHYLENE 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.

Restrictions on use : No additional information

1.3. Details of the supplier of the safety data sheet

Manufactured For:
Scientific Gas Australia Pty Ltd.
Unit 10, 12 Anderson Street
Banksmeadow NSW, 2019 - Australia
T PH 1300 880 531

By:
PortaGas (Praxair, Inc.)
1202 E Sam Houston Pkwy S
Pasadena, TX 77503
T 281-928-6477

New Zealand:
Airtanks Limited Unit 3,
5/343 Church Street, Onehunga,
Auckland 1061, New Zealand
Phone: +64 9 930 6360

1.4. Emergency telephone number

Emergency number : Australian Poison Information Centre: 13 11 26;
Australian Fire Brigade: 000
Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/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

Classification (GHS-AU)

Press. Gas (Comp.) H280
Simple asphyxiant SIAS

2.2. Label elements

GHS AU labelling

Hazard pictograms (GHS AU) :

GHS04

Signal word (GHS AU) : WARNING

Hazard statements (GHS AU) : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION

Precautionary statements (GHS AU) : P403 - Use and store only outdoors or in a well-ventilated place.
CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.
CGA-PG21 - Open valve slowly.

CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
CGA-PG10 - Use only with equipment rated for cylinder pressure.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

Other hazards which do not result in classification : Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Nitrogen	(CAS No) 7727-37-9	< 100
Helium	(CAS No) 7440-59-7	≤ 100
n-Octane	(CAS No) 111-65-9	0.0001 – 0.5
Ethylene	(CAS No) 74-85-1	0.0001 – 0.5
Toluene	(CAS No) 108-88-3	0.0001 – 0.1
Benzene	(CAS No) 71-43-2	0.0001 – 0.1
n-Hexane	(CAS No) 110-54-3	0.0001 – 0.01
n-Heptane	(CAS No) 142-82-5	0.0001 – 0.01

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 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

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.

HazChem code : 2TE.

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. 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.

Hazchem Code : 2TE

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 DOT.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

6.1.2. For emergency responders

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

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 cylinders 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 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

n-Hexane (110-54-3)		
ACGIH	ACGIH OEL TWA	50 ppm
ACGIH	BEI	0.4 mg/l (Medium: urine - Time: end of shift at end of workweek - Parameter: 2,5-Hexanedione without hydrolysis)
USA OSHA	OSHA PEL TWA	1800 mg/m³
USA OSHA	OSHA PEL TWA	500 ppm
AU SWA TWA PPM	OES TWA	20 ppm
AU SWA TWA MGM3	OES TWA	72 mg/m³
AU SWA STEL MGM3	OES STEL	72 mg/m³

n-Heptane (142-82-5)		
ACGIH	ACGIH OEL TWA	400 ppm
ACGIH	ACGIH OEL STEL	500 ppm
USA OSHA	OSHA PEL TWA	2000 mg/m³
USA OSHA	OSHA PEL TWA	500 ppm
AU SWA TWA PPM	OES TWA	400 ppm
AU SWA TWA MGM3	OES TWA	1640 mg/m³
AU STEL PPM	OES STEL	500 ppm
AU SWA STEL MGM3	OES STEL	1640 mg/m³

n-Octane (111-65-9)		
ACGIH	ACGIH OEL TWA	300 ppm
USA OSHA	OSHA PEL TWA	2350 mg/m³
USA OSHA	OSHA PEL TWA	500 ppm
AU SWA TWA PPM	OES TWA	300 ppm
AU SWA TWA MGM3	OES TWA	1400 mg/m³
AU STEL PPM	OES STEL	375 ppm
AU SWA STEL MGM3	OES STEL	1400 mg/m³

Toluene (108-88-3)		
ACGIH	ACGIH OEL TWA	20 ppm
ACGIH	BEI	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
USA OSHA	OSHA PEL TWA	200 ppm
USA OSHA	OSHA PEL C	300 ppm
AU SWA TWA PPM	OES TWA	50 ppm
AU SWA TWA MGM3	OES TWA	191 mg/m³
AU STEL PPM	OES STEL	150 ppm
AU SWA STEL MGM3	OES STEL	191 mg/m³

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

Benzene (71-43-2)		
ACGIH	ACGIH OEL TWA	0.5 ppm
ACGIH	ACGIH OEL STEL	2.5 ppm
ACGIH	BEI	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
USA OSHA	OSHA PEL TWA	10 ppm 1 ppm
USA OSHA	OSHA PEL STEL	5 ppm (see 29 CFR 1910.1028)
USA OSHA	OSHA PEL C	25 ppm
AU SWA TWA PPM	OES TWA	1 ppm
AU SWA TWA MGM3	OES TWA	3.2 mg/m³
AU SWA STEL MGM3	OES STEL	3.2 mg/m³

Ethylene (74-85-1)		
ACGIH	ACGIH OEL TWA	200 ppm
ACGIH	Remark (ACGIH)	Asphyxia

Helium (7440-59-7)		
ACGIH	Not established	
USA OSHA	Not established	

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).

Personal protective equipment : Gloves. Safety glasses.

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 AS/NZS 1336 and AS/NZS 1337.

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Skin and body protection : Wear work gloves and metatarsal shoes for cylinder handling. Protective equipment where needed. Select in accordance with AS/NZS 2161, AS/NZS 2210.1, and AS/NZS 4503.

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Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets AS/NSZ 1715, AS/NSZ 1716, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). 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).

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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

Color : Colorless

Odor : No data available

Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=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	:	No data available
Vapor pressure	:	Not applicable.
Relative vapor 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.
Explosion limits	:	No data available

9.2. Other information

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

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

n-Hexane (110-54-3)	
LD50 oral rat	25 g/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm/4h
ATE US (oral)	25000 mg/kg body weight
ATE US (dermal)	3000 mg/kg body weight

n-Hexane (110-54-3)	
ATE US (gases)	48000 ppmV/4h

n-Heptane (142-82-5)	
LC50 inhalation rat (ppm)	50266 ppm/1h
ATE US (gases)	25133 ppmV/4h

n-Octane (111-65-9)	
LC50 inhalation rat (ppm)	50513 ppm/1h
ATE US (gases)	25256.5 ppmV/4h

Toluene (108-88-3)	
LD50 oral rat	636 mg/kg body weight
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat (mg/l)	49 mg/l/4h
LC50 inhalation rat (ppm)	56976 ppm/1h
ATE US (oral)	636 mg/kg body weight
ATE US (dermal)	12000 mg/kg body weight
ATE US (gases)	28488 ppmV/4h
ATE US (vapors)	49 mg/l/4h
ATE US (dust, mist)	49 mg/l/4h

Benzene (71-43-2)	
LD50 oral rat	810 mg/kg
LD50 dermal rabbit	> 8200 mg/kg
LC50 inhalation rat (mg/l)	44.66 mg/l/4h
LC50 inhalation rat (ppm)	26458 ppm/1h
ATE US (oral)	810 mg/kg body weight
ATE US (gases)	13229 ppmV/4h
ATE US (vapors)	44.66 mg/l/4h
ATE US (dust, mist)	44.66 mg/l/4h

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Toluene (108-88-3)	
IARC group	3 - Not classifiable

Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens

Ethylene (74-85-1)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known ecological damage caused by this product.

n-Hexane (110-54-3)	
LC50 - Fish [1]	2.54 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

n-Heptane (142-82-5)	
LC50 - Fish [1]	375 mg/l (Exposure time: 96 h - Species: Cichlid fish)

n-Octane (111-65-9)	
EC50 - Crustacea [1]	0.38 mg/l (Exposure time: 48 h - Species: water flea)

Toluene (108-88-3)	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Benzene (71-43-2)	
LC50 - Fish [1]	12.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	12.18 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [2]	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

PTG-4588	
Persistence and degradability	No ecological damage caused by this product.

n-Octane (111-65-9)	
Persistence and degradability	Not established.

Toluene (108-88-3)	
Persistence and degradability	No ecological damage caused by this product.

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

Ethylene (74-85-1)	
Persistence and degradability	The substance is biodegradable. Unlikely to persist.

Helium (7440-59-7)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

PTG-4588	
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.

n-Heptane (142-82-5)	
Partition coefficient n-octanol/water (Log Pow)	4.66

n-Octane (111-65-9)	
Partition coefficient n-octanol/water (Log Pow)	5.18
Bioaccumulative potential	Not established.

Toluene (108-88-3)	
Partition coefficient n-octanol/water (Log Pow)	2.7
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 gases.

Nitrogen (7727-37-9)	
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

Benzene (71-43-2)	
BCF - Fish [1]	3.5 – 4.4
Partition coefficient n-octanol/water (Log Pow)	2.1

Ethylene (74-85-1)	
BCF - Fish [1]	4 – 4.6
Partition coefficient n-octanol/water (Log Pow)	Not applicable.

Helium (7440-59-7)	
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.

12.4. Mobility in soil

PTG-4588	
Mobility in soil	No data available.

Toluene (108-88-3)	
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.

Ethylene (74-85-1)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

Helium (7440-59-7)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on ozone layer : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

Transport of Australian Dangerous Goods

UN-No. (ADG) : UN1956

Proper Shipping Name (ADG) : COMPRESSED GAS, N.O.S.

Class (ADG) : 2.2 - 2.2 - Class 2.2 - Non-flammable compressed gas

Danger labels (ADG) : 2.2 - Non-flammable, non-toxic gases

Special provision (ADG) : 274

In accordance with DOT

Transport document description	:	UN1956 Compressed gas, n.o.s., 2.2
UN-No.(DOT)	:	UN1956
Proper Shipping Name (DOT)	:	Compressed gas, n.o.s.
Class (DOT)	:	2.2 - 2.2 - Class 2.2 - Non-flammable compressed gas
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

Emergency Response Guide (ERG) Number	:	126
HazChem code	:	2TE.
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 cylinder 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)	:	1956
Proper Shipping Name (IMDG)	:	COMPRESSED GAS, N.O.S.
Class (IMDG)	:	2 - Gases
Limited quantities (IMDG)	:	120ml
EmS-No. (1)	:	F-C
MFAG-No	:	620
EmS-No. (2)	:	S-V

Air transport

UN-No. (IATA)	:	1956
Proper Shipping Name (IATA)	:	Compressed gas, n.o.s.
Class (IATA)	:	2 - Gases
Instruction "cargo" (ICAO)	:	200
Instruction "passenger" (ICAO)	:	200
Instruction "passenger" - Limited quantities (ICAO)	:	FORBIDDEN

SECTION 15: Regulatory information

15.1. US Federal regulations

n-Hexane (110-54-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %

Toluene (108-88-3)	
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 %

Benzene (71-43-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule
SARA Section 313 - Emission Reporting	0.1 %

Ethylene (74-85-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %

15.2. International regulations

CANADA

n-Hexane (110-54-3)>
Listed on the Canadian DSL (Domestic Substances List)

n-Heptane (142-82-5)>
Listed on the Canadian DSL (Domestic Substances List)

Octane (111-65-9)>
Listed on the Canadian DSL (Domestic Substances List)

Toluene (108-88-3)>
Listed on the Canadian DSL (Domestic Substances List)

Nitrogen, Medipure Liquid Nitrogen (7727-37-9)>
Listed on the Canadian DSL (Domestic Substances List)

Benzene (71-43-2)>
Listed on the Canadian DSL (Domestic Substances List)

Ethylene (74-85-1)>
Listed on the Canadian DSL (Domestic Substances List)

Helium (7440-59-7)>
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

n-Hexane (110-54-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Benzene (71-43-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethylene (74-85-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

n-Hexane (110-54-3)
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 Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) 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 CICR (Turkish Inventory and Control of Chemicals)

Toluene (108-88-3)
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 the Korean ECL (Existing Chemicals List) 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)

Benzene (71-43-2)
Listed on IARC (International Agency for Research on Cancer) 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 the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed as carcinogen on NTP (National Toxicology Program) 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)

Ethylene (74-85-1)
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 the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

PTG-4588()	
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	No

PTG-4588()	
Toxicity - Male	

n-Hexane (110-54-3)				
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	Non-significant risk level (NSRL)
No	No	No	Yes	

n-Heptane (142-82-5)				
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	Non-significant risk level (NSRL)
No	No	No	No	

Octane (111-65-9)				
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	Non-significant risk level (NSRL)
No	No	No	No	

Toluene (108-88-3)				
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	Non-significant risk level (NSRL)
No	Yes	No	No	

Nitrogen, Medipure Liquid 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	Non-significant risk level (NSRL)
No	No	No	No	

Benzene (71-43-2)				
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	Non-significant risk level (NSRL)
Yes	Yes	No	Yes	

Ethylene (74-85-1)				
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	Non-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	Non-significant risk level (NSRL)
No	No	No	No	

n-Hexane (110-54-3)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List

n-Hexane (110-54-3)

U.S. - Pennsylvania - RTK (Right to Know) List

n-Heptane (142-82-5)

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

Octane (111-65-9)

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

Toluene (108-88-3)

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) List

Nitrogen, Medipure Liquid 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

Benzene (71-43-2)

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) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene (74-85-1)

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

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).

SDS Australia - Praxair

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.