

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
Product name : P-18-27430  
Other means of identification : AR - 15 component Mixture  
Product group : Specialty Mixtures

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Praxair Canada inc.  
1200 – 1 City Centre Drive  
Mississauga - Canada L5B 1M2  
T 1-905-803-1600 - F 1-905-803-1682  
[www.praxair.ca](http://www.praxair.ca)

#### 1.4. Emergency telephone number

Emergency number : 1-800-363-0042  
Call emergency number 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product.  
For routine information, contact your supplier or Praxair sales representative.

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### GHS-CA classification

Simple asphyxiant SIAS  
Compressed gas H280  
Acute Tox. 4 (Inhalation:gas) H332

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-CA labelling

Hazard pictograms :    
GHS04 GHS07

Signal word : WARNING

Hazard statements : CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
HARMFUL IF INHALED  
MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION

Precautionary statements : Avoid breathing gas, vapours  
Use and store only outdoors or in a well-ventilated area.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor if you feel unwell  
Protect from sunlight when ambient temperature exceeds 52°C (125°F).  
Use a back flow preventive device in the piping.  
Close valve after each use and when empty.  
Use only with equipment rated for cylinder pressure.

#### 2.3. Other hazards

Other hazards not contributing to the : Asphyxiant in high concentrations.



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classification

### 2.4. Unknown acute toxicity (GHS-CA)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	CAS No.	% (Vol)	Common Name (synonyms)
Argon	(CAS No) 7440-37-1	68.8012 - 79.9988	Argon, compressed
Hydrogen sulfide	(CAS No) 7783-06-4	2 - 3	Hydrogen sulfide (H <sub>2</sub> S) / Hydrogen sulphide / Sulfur hydride / Sulfureted hydrogen / Dihydrogen sulphide / Hydrogensulfide
n-Butyl mercaptan	(CAS No) 109-79-5	0.0001 - 0.0999	Butyl mercaptan / Butane-1-thiol / n-Butanethiol / n-Butyl mercaptan / Butyl mercaptan, n- / 1-Butyl mercaptan / n-Butylmercaptan
Carbonyl sulfide	(CAS No) 463-58-1	0.0001 - 0.0999	Carbon monoxide monosulfide / Carbon oxide sulfide (COS) / Carbon oxide sulfide, (COS) / Carbon oxy sulfide / Carbonyl sulphide / Oxycarbon sulfide / Carbon oxide sulfide / Carbon oxide sulphide
Diethyl sulfide	(CAS No) 352-93-2	0.0001 - 0.0999	Diethyl sulphide / Ethyl sulfide / Ethane, 1,1'-thiobis-
Dimethyl sulfide	(CAS No) 75-18-3	0.0001 - 0.0999	Dimethyl monosulfide / Dimethyl sulphide / DMS / Methane, thiobis- / Methyl sulfide / Methyl sulphide / Thiobis(methane) / Methane, 1,1'-thiobis-
Ethyl mercaptan	(CAS No) 75-08-1	0.0001 - 0.0999	1-Ethanethiol / Ethanethiol / Ethyl hydrosulfide / Ethyl sulfhydrate / Ethyl thioalcohol / Thioethanol / Thioethyl alcohol / Ethanethion / Ethylmercaptan
2-Methyl-1-propanethiol	(CAS No) 513-44-0	0.0001 - 0.0999	Isobutyl mercaptan / 2-Methylpropane-1-thiol / Propane-1-thiol, 2-methyl / 1-Propanethiol, 2-methyl- / Methyl-1-propanethiol, 2-
2-Propanethiol	(CAS No) 75-33-2	0.0001 - 0.0999	Isopropyl mercaptan / Isopropanethiol / Propane-2-thiol
Methyl ethyl sulfide	(CAS No) 624-89-5	0.0001 - 0.0999	Ethyl methyl sulphide / Methyl ethyl sulfide / Ethyl methyl sulfide / 2-Thiabutane
Methyl mercaptan	(CAS No) 74-93-1	0.0001 - 0.0999	Methylmercaptan / Methyl mercaptan / Thiomethanol / Thiomethyl alcohol
1-Propanethiol	(CAS No) 107-03-9	0.0001 - 0.0999	Propane-1-thiol / n-Propyl mercaptan / Propyl mercaptan / Propyl mercaptan, n- / Propanethiol, 1- / 1-Propyl mercaptan / Propanethiol
1-Methyl-1-propanethiol	(CAS No) 513-53-1	0.0001 - 0.0999	Butane-2-thiol / sec-Butyl mercaptan / 2-Butyl mercaptan
tert-Butyl mercaptan	(CAS No) 75-66-1	0.0001 - 0.0999	tert-Butanethiol / tert-Butyl mercaptan / 2-Methylpropane-2-thiol / Propane-2-thiol, 2-methyl- / 2-Propanethiol, 2-methyl- / Methyl-2-propanethiol, 2-

## 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. Apply artificial respiration 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 (acute and delayed)

No additional information available

### 4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Obtain medical assistance.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable extinguishing media

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

#### 5.2. Unsuitable extinguishing media

No additional information available

#### 5.3. Specific hazards arising from the hazardous product

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

Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.

#### 5.4. Special protective equipment and precautions for fire-fighters

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.).

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.2. Methods and materials for containment and cleaning up

#### 6.3. Reference to other sections

For further information refer to section 8: Exposure controls/personal protection

### 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, 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.



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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>n-Butyl mercaptan (109-79-5)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	0.5 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	10 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	1.8 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	0.5 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	1.8 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.5 ppm
British Columbia	OEL TWA (ppm)	0.5 ppm
Manitoba	OEL TWA (ppm)	0.5 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	1.8 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.5 ppm
New Foundland & Labrador	OEL TWA (ppm)	0.5 ppm
Nova Scotia	OEL TWA (ppm)	0.5 ppm
Nunavut	OEL STEL (ppm)	1.5 ppm
Nunavut	OEL TWA (ppm)	0.5 ppm
Northwest Territories	OEL STEL (ppm)	1.5 ppm
Northwest Territories	OEL TWA (ppm)	0.5 ppm
Ontario	OEL TWA (ppm)	0.5 ppm
Prince Edward Island	OEL TWA (ppm)	0.5 ppm
Québec	VEMP (mg/m <sup>3</sup> )	1.8 mg/m <sup>3</sup>
Québec	VEMP (ppm)	0.5 ppm
Saskatchewan	OEL STEL (ppm)	1.5 ppm
Saskatchewan	OEL TWA (ppm)	0.5 ppm
<b>Carbonyl sulfide (463-58-1)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	5 ppm
British Columbia	OEL TWA (ppm)	5 ppm
Manitoba	OEL TWA (ppm)	5 ppm
New Foundland & Labrador	OEL TWA (ppm)	5 ppm
Nova Scotia	OEL TWA (ppm)	5 ppm
Ontario	OEL TWA (ppm)	5 ppm
Prince Edward Island	OEL TWA (ppm)	5 ppm
<b>Dimethyl sulfide (75-18-3)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	10 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	10 ppm
British Columbia	OEL TWA (ppm)	10 ppm
Manitoba	OEL TWA (ppm)	10 ppm
New Foundland & Labrador	OEL TWA (ppm)	10 ppm
Nova Scotia	OEL TWA (ppm)	10 ppm
Northwest Territories	OEL STEL (ppm)	20 ppm
Northwest Territories	OEL TWA (ppm)	10 ppm
Ontario	OEL TWA (ppm)	10 ppm

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<b>Dimethyl sulfide (75-18-3)</b>		
Prince Edward Island	OEL TWA (ppm)	10 ppm
Saskatchewan	OEL STEL (ppm)	20 ppm
Saskatchewan	OEL TWA (ppm)	10 ppm
<b>Ethyl mercaptan (75-08-1)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	0.5 ppm
USA - OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (Ceiling) (ppm)	10 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	0.5 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.5 ppm
British Columbia	OEL TWA (ppm)	0.5 ppm
Manitoba	OEL TWA (ppm)	0.5 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.5 ppm
New Foundland & Labrador	OEL TWA (ppm)	0.5 ppm
Nova Scotia	OEL TWA (ppm)	0.5 ppm
Nunavut	OEL STEL (mg/m <sup>3</sup> )	5.1 mg/m <sup>3</sup>
Nunavut	OEL STEL (ppm)	1.5 ppm
Nunavut	OEL TWA (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
Nunavut	OEL TWA (ppm)	0.5 ppm
Northwest Territories	OEL STEL (ppm)	1.5 ppm
Northwest Territories	OEL TWA (ppm)	0.5 ppm
Ontario	OEL TWA (ppm)	0.5 ppm
Prince Edward Island	OEL TWA (ppm)	0.5 ppm
Québec	VEMP (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
Québec	VEMP (ppm)	0.5 ppm
Saskatchewan	OEL STEL (ppm)	1.5 ppm
Saskatchewan	OEL TWA (ppm)	0.5 ppm
Yukon	OEL Ceiling (mg/m <sup>3</sup> )	7.6 mg/m <sup>3</sup>
Yukon	OEL Ceiling (ppm)	3 ppm
<b>Hydrogen sulfide (7783-06-4)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	1 ppm
USA - ACGIH	ACGIH TLV-STEL (ppm)	5 ppm
USA - OSHA	OSHA PEL (Ceiling) (ppm)	20 ppm
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Canada (Quebec)	VECD (ppm)	15 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	10 ppm
Alberta	OEL Ceiling (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Alberta	OEL Ceiling (ppm)	15 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	10 ppm
British Columbia	OEL Ceiling (ppm)	10 ppm
Manitoba	OEL STEL (ppm)	5 ppm

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<b>Hydrogen sulfide (7783-06-4)</b>		
Manitoba	OEL TWA (ppm)	1 ppm
New Brunswick	OEL STEL (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
New Brunswick	OEL STEL (ppm)	15 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	10 ppm
New Foundland & Labrador	OEL STEL (ppm)	5 ppm
New Foundland & Labrador	OEL TWA (ppm)	1 ppm
Nova Scotia	OEL STEL (ppm)	5 ppm
Nova Scotia	OEL TWA (ppm)	1 ppm
Nunavut	OEL Ceiling (mg/m <sup>3</sup> )	28 mg/m <sup>3</sup>
Nunavut	OEL Ceiling (ppm)	20 ppm
Nunavut	OEL STEL (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Nunavut	OEL STEL (ppm)	15 ppm
Nunavut	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Nunavut	OEL TWA (ppm)	10 ppm
Northwest Territories	OEL STEL (ppm)	15 ppm
Northwest Territories	OEL TWA (ppm)	10 ppm
Ontario	OEL STEL (ppm)	15 ppm
Ontario	OEL TWA (ppm)	10 ppm
Prince Edward Island	OEL STEL (ppm)	5 ppm
Prince Edward Island	OEL TWA (ppm)	1 ppm
Québec	VECD (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Québec	VECD (ppm)	15 ppm
Québec	VEMP (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Québec	VEMP (ppm)	10 ppm
Saskatchewan	OEL STEL (ppm)	15 ppm
Saskatchewan	OEL TWA (ppm)	10 ppm
Yukon	OEL STEL (mg/m <sup>3</sup> )	27 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	15 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	10 ppm
<b>Methyl mercaptan (74-93-1)</b>		
USA - ACGIH	ACGIH TLV-TWA (ppm)	0.5 ppm
USA - OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (Ceiling) (ppm)	10 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	0.98 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	0.5 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.5 ppm
British Columbia	OEL TWA (ppm)	0.5 ppm
Manitoba	OEL TWA (ppm)	0.5 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.98 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.5 ppm
New Foundland & Labrador	OEL TWA (ppm)	0.5 ppm
Nova Scotia	OEL TWA (ppm)	0.5 ppm

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Methyl mercaptan (74-93-1)		
Nunavut	OEL STEL (ppm)	1.5 ppm
Nunavut	OEL TWA (ppm)	0.5 ppm
Northwest Territories	OEL STEL (ppm)	1.5 ppm
Northwest Territories	OEL TWA (ppm)	0.5 ppm
Ontario	OEL TWA (ppm)	0.5 ppm
Prince Edward Island	OEL TWA (ppm)	0.5 ppm
Québec	VEMP (mg/m <sup>3</sup> )	0.98 mg/m <sup>3</sup>
Québec	VEMP (ppm)	0.5 ppm
Saskatchewan	OEL STEL (ppm)	1.5 ppm
Saskatchewan	OEL TWA (ppm)	0.5 ppm
Yukon	OEL Ceiling (mg/m <sup>3</sup> )	5.9 mg/m <sup>3</sup>
Yukon	OEL Ceiling (ppm)	3 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Alarm detectors should be used when toxic gases may be released. Product to be handled in a closed system. Ensure exposure is below occupational exposure limits (where available).

### 8.3. Individual protection measures/Personal protective equipment

Personal protective equipment : Gloves. Face shield. Safety glasses.



Hand protection : Wear work gloves when handling containers. Wear heavy rubber gloves where contact with product may occur.

Eye protection : Wear safety glasses with side shields. Safety eye wear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

Respiratory protection : **Respiratory protection:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local bylaws or guidelines. Selection should be based on the current CSA standard Z94.4, "Selection, Care, and Use of Respirators." Respirators should also be approved by NIOSH and MSHA. 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.

Other information : **Other protection :** Safety shoes for general handling at customer sites. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines. For working with flammable and oxidizing materials, consider the use of flame resistant anti-static safety clothing.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: No data available
Colour	: Colourless.
Odour	: No data available.
Odour threshold	: No data available
pH	: Not applicable.
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.



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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
Vapour pressure	: Not applicable.
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Water: No data available
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Viscosity, kinematic (calculated value) (40 °C)	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Flammability (solid, gas)	: Non flammable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	: No reactivity hazard other than the effects described in sub-sections below.
Chemical stability	: Stable under normal conditions.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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

ATE CA (gases)	11857.7684305656 ppmv/4h
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n-Butyl mercaptan (109-79-5)	
LD50 oral rat	1500 mg/kg
LD50 dermal rabbit	> 34600 mg/kg
LC50 inhalation rat (ppm)	4020 ppm/4h

Carbonyl sulfide (463-58-1)	
LC50 inhalation rat (ppm)	850 ppmv/4h

Diethyl sulfide (352-93-2)	
LD50 oral rat	3415 mg/kg

Dimethyl sulfide (75-18-3)	
LD50 oral rat	535 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

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<b>Dimethyl sulfide (75-18-3)</b>	
LC50 inhalation rat (ppm)	40250 ppm/1h
<b>Ethyl mercaptan (75-08-1)</b>	
LD50 oral rat	682 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (ppm)	4420 ppm/4h
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 inhalation rat (ppm)	356 ppm/4h
<b>2-Methyl-1-propanethiol (513-44-0)</b>	
LD50 oral rat	7168 mg/kg
<b>Methyl mercaptan (74-93-1)</b>	
LD50 oral rat	109.6 mg/kg
LD50 dermal rat	> 84.8 mg/kg
LC50 inhalation rat (ppm)	1350 ppm/1h
<b>1-Propanethiol (107-03-9)</b>	
LD50 oral rat	1730 mg/kg
LC50 inhalation rat (ppm)	7300 ppm/4h
<b>tert-Butyl mercaptan (75-66-1)</b>	
LD50 oral rat	4729 mg/kg
LC50 inhalation rat (ppm)	22200 ppm/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
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Dimethyl sulfide (75-18-3)</b>	
EC50 Daphnia 1	23 mg/l (Exposure time: 48 h - Species: Daphnia pulex)
<b>Ethyl mercaptan (75-08-1)</b>	
EC50 Daphnia 1	185 mg/l
EC50 Daphnia 2	0.185 mg/l
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 fish 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
LC50 fish 2	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

### 12.2. Persistence and degradability

<b>P-18-27430</b>	
Persistence and degradability	No ecological damage caused by this product.

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<b>Carbonyl sulfide (463-58-1)</b>	
Persistence and degradability	Not applicable for inorganic gases.
<b>Hydrogen sulfide (7783-06-4)</b>	
Persistence and degradability	Not applicable for inorganic gases.
<b>Methyl mercaptan (74-93-1)</b>	
Persistence and degradability	The substance is biodegradable. Unlikely to persist.
<b>Argon (7440-37-1)</b>	
Persistence and degradability	No ecological damage caused by this product.
<b>12.3. Bioaccumulative potential</b>	
<b>P-18-27430</b>	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.
<b>n-Butyl mercaptan (109-79-5)</b>	
Log Pow	2.28
<b>Carbonyl sulfide (463-58-1)</b>	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No data available.
<b>Diethyl sulfide (352-93-2)</b>	
Log Pow	1.95
<b>Hydrogen sulfide (7783-06-4)</b>	
BCF fish 1	(no bioaccumulation expected)
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No data available.
<b>Methyl mercaptan (74-93-1)</b>	
Log Pow	Not known.
Bioaccumulative potential	No data available.
<b>Argon (7440-37-1)</b>	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.
<b>12.4. Mobility in soil</b>	
<b>P-18-27430</b>	
Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.
<b>n-Butyl mercaptan (109-79-5)</b>	
Log Pow	2.28
<b>Carbonyl sulfide (463-58-1)</b>	
Log Pow	Not applicable for inorganic gases.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.
<b>Diethyl sulfide (352-93-2)</b>	
Log Pow	1.95
<b>Hydrogen sulfide (7783-06-4)</b>	
Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

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<b>Methyl mercaptan (74-93-1)</b>	
Log Pow	Not known.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.
<b>Argon (7440-37-1)</b>	
Mobility in soil	No data available.
Log Pow	Not applicable.
Log Kow	Not applicable.
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. Disposal 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

### 14.1. Basic shipping description

In accordance with TDG

#### TDG

UN-No. (TDG) : UN1956  
TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.  
Proper shipping name : COMPRESSED GAS, N.O.S.

Explosive Limit and Limited Quantity Index : 0.125 L

### 14.3. Air and sea transport

#### IMDG

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

#### IATA

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

## SECTION 15: Regulatory information

### 15.1. National regulations

<b>n-Butyl mercaptan (109-79-5)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>Carbonyl sulfide (463-58-1)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>Diethyl sulfide (352-93-2)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>Dimethyl sulfide (75-18-3)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>Ethyl mercaptan (75-08-1)</b>
Listed on the Canadian DSL (Domestic Substances List)
<b>Hydrogen sulfide (7783-06-4)</b>
Listed on the Canadian DSL (Domestic Substances List)

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### 2-Methyl-1-propanethiol (513-44-0)

Listed on the Canadian DSL (Domestic Substances List)

### 2-Propanethiol (75-33-2)

Listed on the Canadian DSL (Domestic Substances List)

### Methyl ethyl sulfide (624-89-5)

Listed on the Canadian DSL (Domestic Substances List)

### Methyl mercaptan (74-93-1)

Listed on the Canadian DSL (Domestic Substances List)

### 1-Propanethiol (107-03-9)

Listed on the Canadian DSL (Domestic Substances List)

### 1-Methyl-1-propanethiol (513-53-1)

Listed on the Canadian NDSL (Non-Domestic Substances List)

### tert-Butyl mercaptan (75-66-1)

Listed on the Canadian DSL (Domestic Substances List)

### Argon (7440-37-1)

Listed on the Canadian DSL (Domestic Substances List)

## 15.2. International regulations

### n-Butyl mercaptan (109-79-5)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Carbonyl sulfide (463-58-1)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Diethyl sulfide (352-93-2)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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 the United States TSCA (Toxic Substances Control Act) inventory

### Dimethyl sulfide (75-18-3)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

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### Ethyl mercaptan (75-08-1)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Japanese Pollutant Release and Transfer Register Law (PRTR Law)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Hydrogen sulfide (7783-06-4)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 2-Methyl-1-propanethiol (513-44-0)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 2-Propanethiol (75-33-2)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Methyl ethyl sulfide (624-89-5)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory

### Methyl mercaptan (74-93-1)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Japanese Poisonous and Deleterious Substances Control Law  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

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### 1-Propanethiol (107-03-9)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 1-Methyl-1-propanethiol (513-53-1)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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 the United States TSCA (Toxic Substances Control Act) inventory

### tert-Butyl mercaptan (75-66-1)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

### Argon (7440-37-1)

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 EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
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 the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

## SECTION 16: Other information

Date of issue : 15/02/2017  
Revision date : 06/07/2017  
Supersedes : 15/02/2017

Indication of changes:

Training advice : Users of breathing apparatus must be trained.

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Supersedes: 02-15-2017

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### 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.

Praxair 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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### SDS Canada (GHS) - Praxair

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