



# Safety Data Sheet

## Propylene

### Section 1: Product and Company Identification

**Purity Cylinder Gases, Inc.**

2580 28th St SW  
Wyoming, MI 49519  
P: (616)532-2375  
www.puritygas.com

Product Code: Propylene

### Section 2: Hazards Identification



**Danger**

**Hazard Classification:**

Flammable (Category 1)  
Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated  
Extremely flammable gas

**Precautionary Statements**

**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Response:**

Eliminate all ignition sources if safe to do so.  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

**Storage:**

Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

|              |
|--------------|
| <b>CAS #</b> |
| 115-07-1     |

| Chemical Substance | Chemical Family                      | Trade Names                                                                  |
|--------------------|--------------------------------------|------------------------------------------------------------------------------|
| PROPYLENE          | Hydrocarbons, Aliphatic, Unsaturated | PROPENE; METHYLETHENE; METHYLETHYLENE; 1-PROPYLENE; 1-PROPENE; UN 1077; C3H6 |

## Section 4: First Aid Measures

| Skin Contact                                                                                                                                                                                                                         | Eye Contact                                                                                                                     | Ingestion                                              | Inhalation                                                                                                                                                                                                               | Note to Physicians               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention. | Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | If a large amount is swallowed, get medical attention. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. |

## Section 5: Fire Fighting Measures

| Suitable Extinguishing Media                                                   | Products of Combustion  | Protection of Firefighters                                                                                                                                                             |
|--------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carbon dioxide, regular dry chemical Large fires: Flood with fine water spray. | Toxic, irritating gases | <ul style="list-style-type: none"> <li>Any self-contained breathing apparatus with a full facepiece.</li> <li>Any self-contained breathing apparatus with a full facepiece.</li> </ul> |

## Section 6: Accidental Release Measures

| Personal Precautions                                                                                                                      | Environmental Precautions                                 | Methods for Containment                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Keep unnecessary people away, isolate hazard area and deny entry. Do not touch spilled material. Ventilate closed spaces before entering. | Avoid heat, flames, sparks and other sources of ignition. | Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. |

| Methods for Cleanup                        | Other Information |
|--------------------------------------------|-------------------|
| Evacuate area. Contact emergency personnel | None              |

## Section 7: Handling and Storage

| Handling                                                                                                                                                                                                                                                                                                                                                             | Storage                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.110. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Store outside or in a detached building. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. | Keep separated from incompatible substances. Avoid heat, flames, sparks and other sources of ignition. |

## Section 8: Exposure Controls/Personal Protection

| Exposure Guidelines          |
|------------------------------|
| PROPYLENE: 500 ppm ACGIH TWA |

## Engineering Controls

Handle only in fully enclosed systems.

| Eye Protection                                                                                                                                                                                                                                 | Skin Protection                                                                                                          | Respiratory Protection                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. | For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing. | Any self-contained breathing apparatus with a full facepiece. |

## General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

| Physical State | Appearance | Color     | Change in Appearance | Physical Form | Odor                      | Taste |
|----------------|------------|-----------|----------------------|---------------|---------------------------|-------|
| Gas            | Clear      | Colorless | N/A                  | Gas           | Faint gasoline-like odour | N/A   |

| Flash Point     | Flammability  | Partition Coefficient                                 | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|-----------------|---------------|-------------------------------------------------------|--------------------------|------------------------|------------------------|
| -162 F (-108 C) | Not available | 223.87 (log = 2.35) (estimated from water solubility) | 851 F (455 C)            | 0.111                  | 0.02                   |

| Boiling Point | Freezing Point  | Vapor Pressure     | Vapor Density | Specific Gravity | Water Solubility | pH             | Odor Threshold | Evaporation Rate | Viscosity        |
|---------------|-----------------|--------------------|---------------|------------------|------------------|----------------|----------------|------------------|------------------|
| -53 F (-47 C) | -301 F (-185 C) | 7828 mmHg @ 21.1 C | 1.5 (Air=1)   | Not applicable   | 0.45             | Not applicable | Not available  | Not applicable   | 0.140 cP @ -40 C |

| Molecular Weight | Molecular Formula | Density    | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility                   |
|------------------|-------------------|------------|-------------------|----------------------|----------------|--------------------------------------|
| 42.08            | C-H3-C-H-C-H2     | 1.7855 g/L | Not available     | 100%                 | Not applicable | Soluble: Alcohol, ether, acetic acid |

## Section 10: Stability and Reactivity

| Stability                                                            | Conditions to Avoid                                                  | Incompatible Materials                                                     |
|----------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------|
| May polymerize. May react on contact with air, heat, light or water. | May polymerize. May react on contact with air, heat, light or water. | Oxidizing materials, halo carbons, halogens, acids, water, nitrogen oxides |

| Hazardous Decomposition Products     | Possibility of Hazardous Reactions                                                                                        |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Miscellaneous decomposition products | May polymerize. Avoid contact with heat, light, air, water or incompatible materials. Polymerizes with evolution of heat. |

## Section 11: Toxicology Information

### Acute Effects

| Oral LD50     | Dermal LD50   | Inhalation                                                                         |
|---------------|---------------|------------------------------------------------------------------------------------|
| Not available | Not available | Tearing, nausea, vomiting, symptoms of drunkenness, suffocation, convulsions, coma |

| Eye Irritation                    | Skin Irritation             | Sensitization                 |
|-----------------------------------|-----------------------------|-------------------------------|
| Liquid: frostbite, blurred vision | Liquid: blisters, frostbite | No health hazards classified. |

### Chronic Effects

| Carcinogenicity | Mutagenicity | Reproductive Effects | Developmental Effects |
|-----------------|--------------|----------------------|-----------------------|
|-----------------|--------------|----------------------|-----------------------|

| Carcinogenicity                                                                                                         | Mutagenicity | Reproductive Effects | Developmental Effects |
|-------------------------------------------------------------------------------------------------------------------------|--------------|----------------------|-----------------------|
| IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen | Available.   | Available.           | No data               |

## Section 12: Ecological Information

### Fate and Transport

| Eco toxicity                                                                                                                                                            | Persistence / Degradability                                                      | Bioaccumulation / Accumulation         | Mobility in Environment                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------|
| Fish toxicity: Not available<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Relatively non-persistent in the environment.<br>Moderately volatile from water. | 0.40 (estimated from water solubility) | Leaches through the soil or the sediment at a slow rate. |

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

| Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group  | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|----------------------|-----------|--------------------------|----------------|-----------------------|----------------------------------------------------|------------------------------------------|---------------------------------|
| Propylene            | UN1077    | 2.1                      | Not applicable | 2.1                   | Forbidden                                          | 150 kg                                   | N/A                             |

### Canadian Transportation of Dangerous Goods

| Shipping Name | UN Number | Class | Packing Group / Risk Group |
|---------------|-----------|-------|----------------------------|
| Propylene     | UN1077    | 2.1   | Not applicable             |

## Section 15: Regulatory Information

### U.S. Regulations

| CERCLA Sections | SARA 355.30    | SARA 355.40    |
|-----------------|----------------|----------------|
| Not regulated.  | Not regulated. | Not regulated. |

### SARA 370.21

| Acute | Chronic | Fire | Reactive | Sudden Release |
|-------|---------|------|----------|----------------|
| Yes   | No      | Yes  | No       | Yes            |

### SARA 372.65

PROPYLENE

### OSHA Process Safety

Not regulated.

### State Regulations

|                          |
|--------------------------|
| <b>CA Proposition 65</b> |
|--------------------------|

|                |
|----------------|
| Not regulated. |
|----------------|

### Canadian Regulations

|                             |
|-----------------------------|
| <b>WHMIS Classification</b> |
|-----------------------------|

|        |
|--------|
| A, B1. |
|--------|

### National Inventory Status

| US Inventory (TSCA)  | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
|----------------------|------------------------------|-----------------------------|
| Listed on inventory. | Not listed.                  | Listed on inventory.        |

## Section 16: Other Information

|                    |
|--------------------|
| <b>NFPA Rating</b> |
|--------------------|

|                              |
|------------------------------|
| HEALTH=2 FIRE=4 REACTIVITY=1 |
|------------------------------|

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard