

# Material Safety Data Sheet



1-Pentene

## Section 1. Chemical product and company identification

**Product Name** : 1-Pentene  
**Supplier** : AIRGAS INC., on behalf of its subsidiaries  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253  
**Synonym** : alpha-n-amylen; propylethylene  
**MSDS#** : 001119  
**Date of Preparation/Revision** : 9/25/2007.  
**In case of emergency** : 1-866-734-3438

## Section 2. Hazards identification

**Physical state** : Liquid. (COLORLESS LIQUID LIKE GASOLINE)  
**Emergency overview** : Danger!  
HIGHLY FLAMMABLE LIQUID AND VAPOR.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.  
VAPOR MAY CAUSE FLASH FIRE.  
Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation.

### Potential acute health effects

**Eyes** : Irritating to eyes.  
**Skin** : Irritating to skin.  
**Inhalation** : No known significant effects or critical hazards.  
**Ingestion** : May be harmful if swallowed.

**Potential chronic health effects** : **CARCINOGENIC EFFECTS** Not available.  
**MUTAGENIC EFFECTS** Not available.  
**TERATOGENIC EFFECTS**: Not available.

**Medical conditions aggravated by overexposure** : Repeated or prolonged exposure is not known to aggravate medical condition.

See toxicological Information (section 11)

## Section 3. Composition, Information on Ingredients

### United States

### Exposure limits

1-pentene 109-67-1 100

## Section 4. First aid measures

**Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.  
**Skin contact** : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.  
**Inhalation** : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.  
**Ingestion** : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

## Section 5. Fire fighting measures

- Flammability of the product** : Flammable.
- Auto-ignition temperature** : 274.85°C (526.7°F)
- Flash point** : Closed cup: -18.15°C (-0.7°F). Open cup: -18.15°C (-0.7°F).
- Flammable limits** : Lower: 1.4% Upper: 8.7%
- Products of combustion** : These products are carbon oxides (CO, CO<sub>2</sub>).
- Fire hazards in presence of various substances** : Highly flammable in presence of oxidizing materials.
- Fire fighting media and instructions** : In case of fire, use water spray (fog), foam, dry chemicals, or CO<sub>2</sub>.

Highly flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

- Special protective equipment for fire-fighters** : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

## Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

## Section 7. Handling and storage

- Handling** : Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8. Exposure Controls, Personal Protection

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Personal protection

- Eyes** : Safety eyewear 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.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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**Personal protection in case of a large spill** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product name**

**Exposure limits**

**United States**

1-pentene

## Section 9. Physical and chemical properties

**Physical state** : Liquid. (COLORLESS LIQUID LIKE GASOLINE)  
**Color** : COLORLESS  
**Molecular weight** : 70.14 g/mole  
**Molecular formula** : C<sub>5</sub>H<sub>10</sub>  
**Boiling/condensation point** : 29.95°C (85.9°F)  
**Melting/freezing point** : -165.15°C (-265.3°F)  
**Critical temperature** : 191.7°C (377.1°F)  
**Specific gravity** : 0.641 (Water = 1)  
**Vapor density** : 2.4 (Air = 1)

## Section 10. Stability and reactivity

**Stability and reactivity** : The product is stable.  
**Incompatibility with various substances** : Highly reactive with oxidizing agents.

## Section 11. Toxicological information

**Chronic effects on humans** : Causes damage to the following organs: skin, central nervous system (CNS), eye, lens or cornea.  
**Other toxic effects on humans** : No specific information is available in our database regarding the other toxic effects of this material for humans.  
**Specific effects**  
**Carcinogenic effects** : No known significant effects or critical hazards.  
**Mutagenic effects** : No known significant effects or critical hazards.  
**Reproduction toxicity** : No known significant effects or critical hazards.

## Section 12. Ecological information

**Products of degradation** : These products are carbon oxides (CO, CO<sub>2</sub>) and water.  
**Toxicity of the products of biodegradation** : The product itself and its products of degradation are not toxic.




## Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

## Section 14. Transport information

**1-Pentene**

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
<b>DOT Classification</b>	UN1108	1-PENTENE (N-AMYLENE)	3	I		<p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger Aircraft</b> Quantity limitation: 1 L</p> <p><b>Cargo Aircraft</b> Quantity limitation: 30 L</p> <p><b>Special provisions</b> T11, TP2</p>
<b>TDG Classification</b>	UN1108	N-AMYLENE; OR 1-PENTENE	3	I		<p><b>Explosive Limit and Limited Quantity Index</b> 0</p> <p><b>Passenger Carrying Ship Index</b> Forbidden</p> <p><b>Passenger Carrying Road or Rail Index</b> 1</p>
<b>Mexico Classification</b>	UN1108	1-PENTENE (N-AMYLENE)	3	I		<p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger Aircraft</b> Quantity limitation: 1 L</p> <p><b>Cargo Aircraft</b> Quantity limitation: 30 L</p> <p><b>Special provisions</b> T11, TP2</p>

## Section 15. Regulatory information

### United States

- HCS Classification** : Flammable liquid  
Target organ effects
- U.S. Federal regulations** : TSCA 8(b) inventory: 1-pentene  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: 1-pentene  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: 1-pentene:  
Fire hazard, Immediate (Acute) Health Hazard  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean air act (CAA) 112 accidental release prevention: 1-pentene  
Clean air act (CAA) 112 regulated flammable substances: 1-pentene  
Clean air act (CAA) 112 regulated toxic substances: No products were found.
- State regulations** : Pennsylvania RTK: 1-pentene: (generic environmental hazard)  
Massachusetts RTK: 1-pentene  
New Jersey: 1-pentene

### Canada

- WHMIS (Canada)** : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
CEPA DSL: 1-pentene

## Section 16. Other information

- Label Requirements** : HIGHLY FLAMMABLE LIQUID AND VAPOR.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.  
VAPOR MAY CAUSE FLASH FIRE.

**Hazardous Material Information System (U.S.A.)** :

Health	*	2
Fire hazard		4
Reactivity		0
Personal protection		C

**National Fire Protection Association (U.S.A.)** :



### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.