

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code:	00004	
Product Name:	Pentane	
Company Name:	Gas Innovations	Phone Number:
	18005 E. Hwy 225	+1 (281)471-2200
	La Porte, TX 77571	
Web site address:	www.gasinnovations.com	
Emergency Contact:	3E (within United States)	+1 (866)303-2640
Information:	Infotrac (outside of United States)	+1 (352)323-3500

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2

Specific Target Organ Toxicity (single exposure), Category 3

Aspiration Toxicity, Category 1

Aquatic Toxicity (Chronic), Category 2

**GHS Signal Word:** Danger

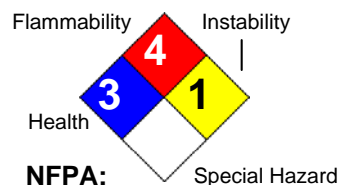
GHS Hazard Phrases: H225 - Highly flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.

GHS Precaution Phrases: P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting// equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing gas/vapors/spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases: P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P391 - Collect spillage.

GHS Storage and Disposal Phrases: P501 - Dispose of contents/containers in accordance with local/regional/national/international regulations.

Hazard Rating System:

Potential Health Effects
(Acute and Chronic):

Inhalation of high concentrations may cause respiratory tract irritation, central nervous system depression in high concentrations, breathing difficulties, dizziness, lightheadedness, and weakness and numbness in extremities. Skin and eye contact can cause irritation. Possible systemic effects are respiratory tract irritation, central nervous system depression, and weakness or numbness in extremities.

Inhalation:

May be harmful if inhaled. May cause respiratory tract irritation. May cause drowsiness or dizziness. This material can act as a simple asphyxiant by displacement of air.

Skin Contact:

May cause skin irritation.

Eye Contact:

May cause eye irritation.

Ingestion:

May be fatal if swallowed and enters airways.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
109-66-0	Pentane	100 %

4. FIRST AID MEASURES

Emergency and First Aid
Procedures:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In Case of Inhalation:

If breathed in, move person into fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

In Case of Skin Contact:

Wash with soap and large quantities of water. Remove saturated clothing. Get medical attention immediately.

In Case of Eye Contact:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. After 5 minutes, if appropriate, remove contact lenses and continue flushing eyes for an additional 15 minutes. Get medical attention immediately.

In Case of Ingestion:

Do NOT induce vomiting or give anything by mouth to an unconscious or convulsing person. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

Flash Pt: < 0 F (-17.8 C) Method Used: Unknown

Explosive Limits: LEL: 1.4% (V) UEL: 8.3% (V)

Autoignition Pt: 308 C (586 F)

Suitable Extinguishing Media: The only safe way to extinguish a Pentane fire is to stop the flow. Fires may be brought under control using foam, carbon dioxide, or a dry chemical fire extinguisher.

Fire Fighting Instructions:

Personnel may have to wear approach-type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate. Cylinders exposed to fire may rupture with violent force. Extinguishing surrounding fire and keep cylinders cool by applying water from a maximum possible distance with a water spray. Avoid spreading burning liquid with water used for cooling. Keep work areas free of hot metal surfaces and other sources of ignition.

Flammable Properties and
Hazards:

High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	Use proper personal protective equipment as indicated in Section 8.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Steps To Be Taken In Case Material Is Released Or Spilled:	Shut off all sources of ignition. Remove hot metal surfaces. Ventilate the area. For controlling larger flows, personnel may have to wear approach-type protective suits and self-contained breathing apparatus. Flush spilled material into suitable retaining areas or containers with large quantities of water. Small amounts of spilled material may be absorbed into an appropriate absorbent.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	<p>Avoid inhalation of vapor or mist. Keep away from heat, sparks and flame. Keep away from sources of ignition - No smoking. Use spark-proof tools and explosion proof equipment. Use in a closed system. Secure the cylinder to prevent it from falling or being knocked over. Install check valves or traps to prevent suckback to the cylinder. Ground all lines and equipment. Leak check the lines and equipment. Have an emergency plan covering steps to be taken in the event of an accidental release. Take precautionary measures against static discharge.</p> <p>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.</p>
Precautions To Be Taken in Storing:	Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Store away from oxidizers. Do not store in direct sunlight.
Other Precautions:	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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
109-66-0	Pentane	PEL: 1000 ppm	TLV: 600 ppm	No data.
Respiratory Equipment (Specify Type):	If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.			
Eye Protection:	Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder change out or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.			
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure. Impermeable gloves.			
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure. Impermeable aprons.			
Engineering Controls (Ventilation etc.):	Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility, and a safety shower is recommended.			
Work/Hygienic/Maintenance Practices:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.			
Environmental Exposure Controls:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[X] Gas [] Liquid [] Solid
Appearance and Odor:	Appearance: colorless. Odor: Slight characteristic.
	Specific Volume: 0.19 gal/lb @ 1 atm, 68F.
Freezing Point:	-130 C (-202 F)
Boiling Point:	37.8 C (100 F)
Decomposition Temperature:	NA
Autoignition Pt:	308 C (586 F)
Flash Pt:	< 0 F (-17.8 C) Method Used: Unknown
Explosive Limits:	LEL: 1.4% (V) UEL: 8.3% (V)
Specific Gravity (Water = 1):	Lighter than H2O
Density:	Heavier than air
Bulk density:	NA
Vapor Pressure (vs. Air or mm Hg):	7.2 PSIA at 60.0 F (15.6 C)
Vapor Density (vs. Air = 1):	NA
Evaporation Rate:	NA
Solubility in Water:	Negligible
Saturated Vapor Concentration:	NA
Viscosity:	NA
Octanol/Water Partition Coefficient:	NA
pH:	NA
Percent Volatile:	NA
VOC / Volume:	NA

Particle Size: NA
Heat Value: NA
Corrosion Rate: NA
Molecular Formula & Weight: C5H12 72.0

10. STABILITY AND REACTIVITY

Reactivity: High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability: Heat, flames and sparks. Direct sunlight, No smoking.

Incompatibility - Materials To Avoid: Oxidizing agents, Acids, Bases, selected amines.

Hazardous Decomposition Or Byproducts: High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.

Other Studies: CAS# 109-66-0:
Acute toxicity, LC50, Inhalation, Rat, 364.0 g/m3, 4H.

Sensitization: No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. ECOLOGICAL INFORMATION

General Ecological Information: Toxic to aquatic life.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Do not attempt to dispose of residual or unused quantities. Return container to supplier. Dispose of contents/containers in accordance with local/regional/national/international regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Pentanes.
 DOT Hazard Class: 3 FLAMMABLE LIQUID
 UN/NA Number: UN1265



15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
109-66-0	Pentane	No	No	No

CAS #	Hazardous Components (Chemical Name)
109-66-0	Pentane

Other US EPA or State Lists

TSCA: Yes - Inventory, 4 Test, 8A PAIR; CA PROP.65: No;
 CA TAC, Title 8: Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5:
 No; NC TAP: No; NJ EHS: Yes - 1476; NY Part 597: No; PA
 HSL: Yes - 1; SC TAP: No; WI Air: No

CAS #	Hazardous Components (Chemical Name)
109-66-0	Pentane

International Regulatory Lists

Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes -
 1265; Australia ICS: Yes; New Zealand IOC: Yes; China
 IECSC: Yes; Japan ENCS: Yes - (2)-5; Korea ECL: Yes -
 KE-27968; Philippines ICCS: Yes; REACH: Yes - (R), (P)

16. OTHER INFORMATION

Revision Date: 03/23/2015

Additional Information About No data available.

This Product:

Company Policy or
Disclaimer:

The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.