	MSDS	ISSUE DATE	June-2020
	PENTANE	<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a> IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:1/6	

## 1. Chemical Product and Company Identification

Product Name: Pentane

Chemical Name: Pentane

Chemical Formula: C<sub>5</sub>-H<sub>12</sub>

Company Identification: Iran-Tabriz petrochemical company

## 2. Composition and Information on Ingredients

Composition:

Pentane, CAS No: 109-66-0, Min 99% Wt

Toxicological Data on Ingredients: Pentane: VAPOR (LC50): Acute: 364000 mg/m 4 hours [Rat].

## 3. Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (irritant).

Potential Chronic Health Effects:

Effects: Not available.

Mutagenic effects: Not available.

Teratogenic effects: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, the nervous system, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

## 4. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention.

Skin Contact:


In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

	MSDS	ISSUE DATE	June-2020
		<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>	
	PENTANE	IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:2/6	

#### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

#### Ingestion:

If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.

Serious Ingestion: Not available.

### 5. Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 260°C (500°F)

Flash Points: CLOSED CUP: -49°C (-56.2°F).

(TAG)Flammable Limits: LOWER: 1.5% UPPER: 7.8%

Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>).

Fire Hazards in Presence of Various Substances: Extremely flammable in presence of open flames and sparks of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of static discharge: Not available.

Small fire: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

Special Remarks on Fire Hazards: EXTREMELY FLAMMABLE. Vapor may travel considerable distance to source of ignition and flash back.


Special Remarks on Explosion Hazards: Not available.

### 6. Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

	MSDS	ISSUE DATE	June-2020
	PENTANE	<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>	
		IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:3/6	

## 7. Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

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). Do not store above 25°C (77°F).

## 8. Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits:

TWA=120ppm

(350mg/m<sup>3</sup>), C=610ppm (1800mg/m<sup>3</sup>) from NIOSH.TWA=1000ppm (2950mg/m<sup>3</sup>) OSHA-TWA= (600ppm) ACGIH

## 9. Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pleasant. Gasoline-like

Taste: Not available.

Molecular Weight: 72.15g/mole

Color: Colorless.

PH (1% sol/water): Not available.


Boiling Point: 36.1°C (97°F)

Melting Point: -130°C (-202°F)

Critical Temperature: 196.6°C (385.9°F)

Specific Gravity: 0.6262 (Water = 1)

Vapor Pressure: 56.8 kPa (@ 20°C)

	MSDS	ISSUE DATE	June-2020
	PENTANE	<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a> IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:4/6	

Vapor Density: 2.49 (Air = 1)

Volatility: Volatile

Odor Threshold: 2.2 ppm

### 10. Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosion: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosion: It will attack some forms of plastics, rubber, and coatings.

Polymerization: Will not occur.

### 11. Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the vapor (LC50): 364000 mg/m<sup>3</sup> 4 hours [Rat].

Chronic Effects on Humans:

May cause damage to the following organs: kidneys, the nervous system, liver, skin, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (irritant).

Lowest Published Lethal Dose: LCL [Mouse] - Route: Inhalation; Dose 325 gm/m<sup>3</sup>/2H

Special Remarks on Chronic Effects on Humans: Not available.


Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: It can cause skin irritation with itching, drying erythematic, hyper pigmentation, hyperemia, dermatitis, burning sensations, followed by formation of blisters. It may be absorbed by the skin and cause systemic effects.

Eyes: It is a strong eye irritant. Symptoms may include pain, corneal irritation, and nystagmus

Inhalation: It is a mild respiratory tract (nose, throat, lungs) irritant causing coughing, wheezing, and/or shortness of breath. Inhalation exposure to an airborne concentration of 5,000 ppm for 10 minutes appears to have no ill effect in humans, while 90,000 to 120,000 ppm can affect behavior/central nervous system and cause symptoms of central nervous system depression and narcosis.

Symptoms of central nervous system depression include nausea, headache, weakness, dizziness, excitement, confusion, lightheadedness, sleepiness, seizures, inability to concentrate, loss of coordination and judgment, coma, and death with exposure to large amounts. It may also affect the cardiovascular system (dysrhythmias), and metabolism (weight loss/loss of

	MSDS	ISSUE DATE	June-2020
	PENTANE	<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>	
		IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:5/6	

appetite/anorexia). Airborne concentration of approximately 130,000 ppm can be fatal by asphyxiation; therefore, there is not a wide margin of safety concentrations causing central nervous system effects and death.

Ingestion:

Pulmonary aspiration of even a small amount can produce acute lung injury, potentially fatal chemical pneumonitis, and hemorrhage. In extreme cases, respiratory arrest secondary to hypoxia following pneumonitis may occur. It may also affect behavior/central nervous system (symptoms similar to acute inhalation), and cardiovascular system (symptoms similar to acute inhalation).

Chronic Potential Health Effects:

Skin: Prolonged or repeated skin contact can cause dermatitis with dryness and cracking.

Long-term dermal exposure may also cause kidney damage.

Ingestion or inhalation:

Prolonged or repeated ingestion or inhalation can cause central nervous system damage. Central nervous system damage symptoms may include numbness, pins and needles, and weakness of arms and legs. It may also cause liver damage, kidney damage and may affect metabolism (weight loss).

## 12. Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

## 13. Disposal Considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.


## 14. Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: Pentane UNNA: 1265 PG: II

Special Provisions for Transport: Not available.



	MSDS	ISSUE DATE	June-2020
	PENTANE	<a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>	
IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612		Page:6/6	

### 15. Regulatory Information

NFPA Ratings (Scale 0-4): Health=3 Fire=3 Reactivity=0

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

### 16. Other Information

References: Not available.

Other Special Considerations: Not available.

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