

# Paushak Limited

## Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name	:	Pentyl Chloroformate
CAS No.	:	638-41-5
Company	:	Paushak Limited At: Panelav, PO:Tajpura, Taluka: Halol District: Panchmahals - 389350 Gujarat, INDIA.
Telephone	:	+91 2676 664403 / 664412
Emergency Phone #	:	+91 9909985374

### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

Flammable liquids (Category 3)  
Acute toxicity (Inhalation) (Category 2)  
Skin corrosion/irritation (Category 1B)  
Serious eye damage/eye irritation (Category 1)  
Danger!

**Signal word:**

**Hazard Statement(s):**

**H226:** Flammable liquid and vapor.  
**H314:** Causes severe skin burns and eye damage.  
**H330:** Fatal if inhaled.

**Pictogram(s) or Symbol(s):**



**Precautionary Statement(s):**

**P210:** Keep away from heat, sparks, open flames and hot surfaces. – No smoking.  
**P233:** Keep container tightly closed.  
**P240:** Ground and bond container and receiving equipment.  
**P241+P242+P243:** Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.  
**P260:** Do not breathe mist, vapors or spray.  
**P264:** Wash hands and face thoroughly after handling.  
**P271:** Use only outdoors or in a well-ventilated area.  
**P280:** Wear protective gloves, protective clothing, face protection.  
**P284:** Wear respiratory protection.  
**P301+P330+P331+P310:** If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor.  
**P303+P361+P353+P310+P363:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a poison center or doctor. Wash contaminated clothing before reuse.  
**P304+P340+P310:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor.  
**P305+P351+P338+P310:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.  
**P370+P378:** In case of fire: Use dry chemical, dry sand or foam to extinguish.  
**P403+P233:** Store in a well-ventilated place. Keep container tightly closed.  
**P405:** Store locked up.  
**P501:** Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:

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Hazards not otherwise classified:		91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.). Lachrymator
3. COMPOSITION/INFORMATION ON INGREDIENTS		
Substance/Mixture:	Substance	
Components:	Pentyl Chloroformate	
Percent:		
CAS Number:	638-41-5	
Molecular Weight:	150.60	
Chemical Formula:	C <sub>6</sub> H <sub>11</sub> ClO <sub>2</sub>	
Synonyms:	Chloroformic Acid Amyl Ester , Chloroformic Acid Pentyl Ester , Amyl Chloroformate	
CA Index:	No data available	
4. FIRST AID MEASURES		
Inhalation:	Immediately call a poison center or doctor. Effects of exposure (inhalation) to substance may be delayed. Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.	
Skin contact:	For severe burns, immediate medical attention is required. Immediately call a poison center or doctor. Remove and wash contaminated clothing before re-use. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.	
Eye contact:	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Eye contact with vapors or substance may cause severe injury, burns, or death. Call emergency medical service. Move victim to fresh air. Check for and remove any contact lenses. Keep victim warm and quiet. Treat symptomatically and supportively. Effects of exposure to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.	
Ingestion:	Do not induce vomiting without medical advice. Call a physician or Poison Control Center immediately. Does not use mouth-to-mouth method if victim ingested the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Loosen tight clothing such as a collar, tie, belt or waistband. If a person vomits place them in the recovery position so that vomit will not re enter the mouth and throat. Rinse mouth. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.	
Symptoms/effects:		
Acute:	Pain. Redness.	
Delayed:	No data available	
Immediate medical attention:	WARNING: It might be dangerous to the person providing aid to give mouth-to-mouth respiration, because the inhaled material is toxic. WARNING: It might be hazardous to the person providing aid to give mouth – to – mouth respiration, because the inhaled material is corrosive. For severe burns, immediate medical attention is required. If breathing has stopped, perform artificial respiration. Use first aid treatment according to the nature of the injury. Ensure that medical personnel are aware of the material(s) involved and take precautions	

to protect themselves.	
<b>5. FIRE-FIGHTING MEASURES</b>	
<b>Suitable extinguishing media:</b>	Dry chemical, CO2 or water spray. Consult with local fire authorities before attempting large scale fire fighting operations.
<b>Specific hazards arising from the chemical</b>	
<b>Hazardous combustion products:</b>	These products include: Carbon oxides Halogenated compounds
<b>Other specific hazards:</b>	WARNING: Highly toxic HCl gas is produced during combustion.
<b>Special precautions for fire-fighters:</b>	Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. Do not use straight streams. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Move containers from fire area if you can do it without risk.
<b>Special protective equipment for fire-fighters:</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations. Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.
<b>6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Personal precautions:</b>	Avoid contact with skin, eyes, and clothing. Keep people away from and upwind of spill/leak. Use spark proof tools and explosion-proof equipment. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
<b>Personal protective equipment:</b>	Wear eye protection (splash goggles) and face protection (full length face shield). Lab coat. Vapor respirator. Be sure to use a approved respirator or equivalent. Wear protective gloves (nitrile).
<b>Emergency procedures:</b>	Isolate area until gas has dispersed. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.
<b>Methods and materials for containment and cleaning up:</b>	ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if without risk. Ventilate the area. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material.
<b>Environmental precautions:</b>	Keep away from living quarters. Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.
<b>Cleanup:</b>	No data available
<b>7. HANDLING AND STORAGE</b>	
<b>Precautions for safe handling:</b>	Do NOT breathe gas, fumes, vapor, or spray. Manipulate under an adequate fume hood. Avoid contact with skin and eyes. Keep away from heat and sources of ignition. Use explosion-proof equipment. Use only non-sparking hand tool when handling this product. Ground all equipment containing material. Take measures to prevent build up of electrostatic charge. Good general ventilation should be sufficient to control airborne levels. Keep container dry. Handle and open container with care. Wear suitable protective clothing, gloves and eye/face protection. When using do not eat, drink, or smoke. Keep away from sources of ignition.
<b>Conditions for safe storage:</b>	Store locked up. Keep containers tightly closed in well-ventilated place at ambient Temp. Keep away from sources of ignition. Store and use away from heat, sparks, open flame, or any other ignition source. Keep away from incompatibles. Containers which are opened must be

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<b>Storage incompatibilities:</b>	carefully resealed and kept upright to prevent leakage. Avoid prolonged storage periods. Store under inert gas. Moisture sensitive. Store away from oxidizing agents
<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>	
<b>Exposure limits:</b>	No data available
<b>Appropriate engineering controls:</b>	Good general ventilation should be sufficient to control airborne levels. Ventilation is normally required when handling or using this product. Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance. Follow safe industrial engineering/laboratory practices when handling any chemical.
<b>Personal protective equipment</b>	
<b>Respiratory protection:</b>	Vapor respirator. Be sure to use a approved respirator or equivalent.
<b>Hand protection:</b>	Wear protective gloves.
<b>Eye protection:</b>	Splash goggles.
<b>Skin and body protection:</b>	Lab coat.
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>Physical state (20°C):</b>	Liquid
<b>Form:</b>	Clear
<b>Color:</b>	Colorless - Almost colorless
<b>Odor:</b>	Pungent odour
<b>Odor threshold:</b>	No data available
<b>Melting point/freezing point:</b>	No data available
<b>Boiling point/range:</b>	161°C (322°F)
<b>Decomposition temperature:</b>	No data available
<b>Relative density:</b>	1.03
<b>Kinematic Viscosity:</b>	No data available
<b>Partition coefficient: n-octanol/water (log Pow)</b>	No data available
<b>Flash point:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>pH:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Dynamic Viscosity:</b>	No data available
<b>Evaporation rate: (Butyl Acetate = 1)</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Flammability or explosive limits:</b>	
<b>Lower:</b>	No data available
<b>Upper:</b>	No data available
<b>Solubility(ies):</b>	No data available
<b>10. STABILITY AND REACTIVITY</b>	
<b>Reactivity:</b>	No data available
<b>Chemical Stability:</b>	Heat sensitive. Moisture sensitive.
<b>Possibility of Hazardous Reactions:</b>	In use, may form flammable/explosive vapor-air mixture.
<b>Conditions to avoid:</b>	Exposure to moisture. Heat sensitive. Moisture sensitive.
<b>Incompatible materials:</b>	Oxidizing agents
<b>Hazardous Decomposition Products:</b>	No data available
<b>11. TOXICOLOGICAL INFORMATION</b>	

<b>Acute Toxicity:</b>	No data available			
<b>Skin corrosion/irritation:</b>	No data available			
<b>Serious eye damage/irritation:</b>	No data available			
<b>Respiratory or skin sensitization:</b>	No data available			
<b>Germ cell mutagenicity:</b>	No data available			
<b>Carcinogenicity:</b>	No data available			
<b>IARC:</b>	No data available			
<b>NTP:</b>	No data available			
<b>OSHA:</b>	No data available			
<b>Routes of Exposure:</b>	Inhalation, Eye contact, Ingestion, Skin contact.			
<b>Symptoms related to exposure:</b> Overexposure may result in serious illness or death. Skin contact may produce burns. Skin contact may result in inflammation; characterized by itching, scaling, reddening, or occasionally blistering. Eye contact can result in corneal damage or blindness. Inflammation of the eye is characterized by redness, watering, and itching.				
<b>Potential Health Effects:</b> No specific information available; skin and eye contact may result in irritation. May be harmful if inhaled or ingested.				
<b>Target organ(s):</b>	No data available			
<b>12. ECOLOGICAL INFORMATION</b>				
<b>Ecotoxicity</b>				
<b>Fish:</b>	No data available			
<b>Crustacea:</b>	No data available			
<b>Algae:</b>	No data available			
<b>Persistence and degradability:</b>	No data available			
<b>Bioaccumulative potential (BCF):</b>	No data available			
<b>Mobillity in soil:</b>	No data available			
<b>Partition coefficient: n-octanol/water (log Pow)</b>	No data available			
<b>Soil adsorption (Koc):</b>	No data available			
<b>Henry's Law: constant (PaM3/mol)</b>	No data available			
<b>Biodegradation:</b>	No data available			
<b>Other ecotoxicological advice:</b>	No data available			
<b>13. DISPOSAL CONSIDERATIONS</b>				
<b>Disposal of product:</b>	Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. local guidelines for Identification and Listing of Hazardous Waste are listed in rules. The product should not be allowed to enter the environment, drains, water ways, or the soil.			
<b>Disposal of container:</b>	Dispose of as unused product. Do not re-use empty containers.			
<b>Other considerations:</b>	Observe all federal, state and local regulations when disposing of the substance.			
<b>14. TRANSPORT INFORMATION</b>				
<b>DOT (US)</b>				
<b>UN number:</b>	<b>Proper Shipping Name:</b>	<b>Class or Division:</b>	<b>Subrisk(s):</b>	<b>Packing Group:</b>
UN3277	Chloroformates, toxic, corrosive, n.o.s.	6.1	8	II
<b>IATA</b>				
<b>UN number:</b>	<b>Proper Shipping Name:</b>	<b>Class or Division:</b>	<b>Subrisk(s):</b>	<b>Packing Group:</b>

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UN3277	Chloroformates, toxic, corrosive, n.o.s.	6.1	8	II
<b>IMDG</b>				
<b>UN number:</b>	<b>Proper Shipping Name:</b>	<b>Class or Division:</b>	<b>Subrisk(s):</b>	<b>Packing Group:</b>
UN3277	Chloroformates, toxic, corrosive, n.o.s.	6.1	8	II
<b>EmS number:</b>	F-A, S-B			
<b>15. REGULATORY INFORMATION</b>				
<b>Toxic Substance Control Act (TSCA 8b.):</b> This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.				
<b><u>US Federal Regulations</u></b>				
<b>CERCLA Hazardous substance and Reportable Quantity:</b>				
<b>SARA 313:</b>		No data available		
<b>SARA 302:</b>		No data available		
<b><u>State Regulations</u></b>				
<b>State Right-to-Know</b>				
<b>Massachusetts</b>		No data available		
<b>New Jersey</b>		No data available		
<b>Pennsylvania</b>		No data available		
<b>California</b>		No data available		
<b>Proposition 65:</b>				
<b>Other Information</b>				
<b>NFPA Rating:</b>		<b>HMIS Classification:</b>		
<b>Health:</b>	2	<b>Health:</b>	2	
<b>Flammability:</b>	0	<b>Flammability:</b>	0	
<b>Instability:</b>	0	<b>Physical:</b>	0	
<b>International Inventories</b>				
<b>WHMIS hazard class:</b>		E: Corrosive material. B2: Flammable Liquid. D1A: Materials causing immediate and serious toxic effects. (Very Toxic)		
<b>EC-No:</b>	211-336-4			
<b>16. OTHER INFORMATION</b>				
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide for technically qualified personnel. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Paushak Ltd. extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any third party use & shall not be held liable for any damage resulting from handling or from contact with the above product.				