# *n-PENTANE*

## Section 1: Chemical Product and Company Identification

**Product Name:** n-PENTANE
Catalog Codes:206
Synonym: normal pentane; n-Pentane; Amyl hydride Chemical Name: n-PENTANE
Chemical Formula: C5H12

**Contact Information:**
Expresolv Ltd.
Plot No.54 Survey No.108/P Ozon Industrial Park Phase-2, Bavla-Bagodara highway, Village: Bhayla
Ta: Bavla, Dist.: Ahmedabad, Gujarat, PIN:382220
Phone: +91-7069552255, email: info@expresolv.com
CIN No.: U51909GJ2016PLC092972

## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS No. | % by Weight |
|---|---|---|
| n-PENTANE | 109-66-0 | n-PENTANE 99% |

**Toxicological Data on Ingredients:** Methyl alcohol: ORAL (LD50): Acute: 5628 mg/kg [Rat]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit]. VAPOR (LC50): Acute: 64000 ppm 4 hours [Rat].

## Section 3: Hazards Identification

**Potential Acute Health Effects:**
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death.

**Potential Chronic Health Effects:**
Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to eyes. The substance may be toxic to blood, kidneys, liver, brain, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), optic nerve. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Section 4: First Aid Measures

**Eye Contact:**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact:**
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

**Inhalation:**
Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or another proper respiratory medical device. Get medical attention immediately if symptoms occur. Risk of serious damage to the lungs (by aspiration). If not breathing, give artificial respiration.

**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. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.
**Auto-Ignition Temperature:** 260°C (500°F)
**Flash Points:** -49 °C.
**Flammable Limits:** LOWER: 1.5% UPPER: 7.8%
**Products of Combustion:** These products are carbon oxides (CO, CO2).
**Fire Hazards in Presence of Various Substances:**
Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.
**Explosion Hazards in Presence of Various Substances:**
Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames and sparks, of heat.
**Fire Fighting Media and Instructions:**
Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.
**Special Remarks on Fire Hazards:**
Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME
**Special Remarks on Explosion Hazards:**
Extremely flammable. Risk of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**
Evacuate personnel to safe areas. Do not breathe Vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.
**Environmental precautions**
Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and work pits. If substance has entered a water course or sewer or contaminated soil, advise police.

## Section 7: Handling and Storage

**Precautions:**
Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause
Ignition of organic Vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe Vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.
**Storage:**

Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. Ensure adequate ventilation, especially in confined areas.

**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: 1000 ppm **OSHA PEL** (Vacated) TWA: 600 ppm(Vacated) TWA: 1800 mg/m3(Vacated) STEL: 750 ppm (Vacated) STEL: 2250mg/m3TWA: 1000 ppm TWA: 2950 mg/m3. **NIOSH** IDLH: 1500 ppm TWA: 120 ppm TWA: 350 mg/m3Ceiling: 610 pommelling: 1800 mg/m3 **Mexico OEL (TWA)** TWA: 600 ppm

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.
**Odor:** Petroleum distillates.
**Taste:** Not available.
**Molecular Weight:** 72.15 g/mole
**Colour:** Colorless.
**pH (1% soln/water):** Not available.
**Boiling Point:** 36°C (96.8°F)
**Melting Point:** -130°C (-202°F)
**Critical Temperature:** Not available
**Specific Gravity:** Not available
**Vapor Pressure:** 573 mbar @ 20 °C
**Vapor Density:** 2.5 (Air = 1.0)
**Volatility:** Not available.
**Odor Threshold:** Not available
**Water/Oil Dist. Coeff.:** 0.36 g/l at 20ºC
**Ionicity (in Water):** Not available.
**Dispersion Properties:** See solubility in water.
**Solubility:** Insoluble in water.

## Section 10: Stability and Reactivity Data

**Reactive Hazard :** None known, based on information available
**Stability:** Stable under normal conditions.
**Conditions to Avoid:** Incompatible products. Heat, flames and sparks. Keep away from open flames, hot Surfaces and sources of ignition.
**Incompatible Materials:** Strong oxidizing agents, Halogens

**Hazardous Decomposition Products**: Carbon monoxide (CO), Carbon dioxide (CO2)
**Hazardous Polymerization:** Hazardous polymerization does not occur.
**Hazardous Reactions:** None under normal processing.

## Section 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 oral toxicity (LD50): 5628 mg/kg [Rat]. Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 64000 4 hours [Rat].
**Chronic Effects on Humans:**
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. Causes damage to the following organs: eyes. May cause damage to the following organs: blood, kidneys, liver, brain, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), optic nerve.
**Other Toxic Effects on Humans:**
Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
**Special Remarks on Toxicity to Animals:** Not available.
**Special Remarks on Chronic Effects on Humans:**
Passes through the placental barrier. May affect genetic material. May cause birth defects and adverse reproductive effects (paternal and maternal effects and fetotoxicity) based on animal studies.

## Section 12: Ecological Information

**Acute toxicity**
LC50 (inhalation, rat): 364 mg/l/4h.
LD50 (oral, rat) : >2000 mg/kg.
**Acute oral toxicity**
Symptoms: narcosis, spasms, respiratory arrest, mucosal irritations.
**Acute inhalation toxicity**
Symptoms: mucosal irritations, drowsiness, narcosis. Inhalation may lead to the formation of oedemas in the respiratory tract.
**Skin corrosion/irritation**
Irritations. Degreasing effect on the skin, possibly followed by secondary inflammation.
**Serious eye damage/eye irritation**
Slight irritations.
**Respiratory or skin sensitization**
Not Available
**Germ cell mutagenicity**
Bacterial mutagenicity Escherichia is negative.
**Carcinogenicity**
Not Available
**Reproductive toxicity**
Not Available
**Teratogenicity**
Not Available
**Specific target organ toxicity (STOT) - single exposure**
May cause drowsiness or dizziness.

**Specific target organ toxicity (STOT) - repeated exposure**
Not Available
**Aspiration hazard**
May cause pneumonia or chemical pneumonitis
**Further information**
After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis). Damage of lungs. The product should be handled with the care usual when dealing with chemicals.

## Section 13: Disposal Considerations

**Waste Disposal:**
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## Section 14: Transport Information

**DOT Classification:** CLASS 3: Flammable liquid.
**Identification:** n-Pentane UNNA: 1265 PG: II
**Special Provisions for Transport:** Not available.

| | |
|---|---|
| **TDG** | |
| **UN number or ID number** | UN1265 |
| **UN proper shipping name** | n-Pentane |
| **Transport hazard class(es)** | 3 |
| **Packing group** | II |
| **IATA** | |
| **UN number or ID number** | UN1265 |
| **UN proper shipping name** | n-Pentane |
| **Transport hazard class(es)** | 3 |
| **Packing group** | II |
| **IMDG/IMO** | |
| **UN number or ID number** | UN1265 |
| **UN proper shipping name** | n-Pentane |
| **Transport hazard class(es)** | 3 |
| **Packing group** | II |
| **Environmental hazards** | Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO |

## Section 15: Other Regulatory Information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
**15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture**
Not Available
**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 49°C. Material causing other toxic effects (TOXIC).

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 4

**Reactivity:** 0

**Personal Protection:** h

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

**Health:** 1

**Flammability:** 4

**Reactivity:** 0

**Specific hazard:**

**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.

## Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall *Expresolv Limited* be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.

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