

Diisononyl Phthalate (DINP) MSDS

Product Name and Identification

Product Name: [Diisononyl Phthalate \(DINP\)](#)

Chemical Formula: C₂₆H₄₂O₄

CAS Number: 28553-12-0

Intended Use: Commonly used as a plasticizer in PVC products, flexible plastics, and other industrial materials requiring durability and flexibility.

Composition/Ingredients

Chemical Composition:

- **Substance Name:** Diisononyl Phthalate
- **Purity:** ≥ 99%
- **Hazardous Components:** No hazardous components identified under standard conditions as per regulatory guidelines.

Hazards Identification

Emergency Overview:

- **Physical Hazards:**
 - Non-flammable, but may release vapors upon combustion.
- **Health Hazards:**
 - Prolonged skin or eye contact may cause mild irritation.
 - May cause respiratory discomfort if inhaled as mist or vapor in significant quantities.
- **Environmental Hazards:**
 - Avoid releasing large quantities into the environment; potential to accumulate in aquatic systems.

Precautionary Statements:

- Avoid prolonged or repeated exposure.
- Utilize adequate protective equipment during handling.
- Do not release uncontrolled into rivers, lakes, or drainage systems.

First Aid Measures

Eye Contact:

- Rinse thoroughly with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact:

- Wash affected areas with soap and water. Remove any contaminated clothing. If irritation occurs, consult medical assistance.

Inhalation:

- Move to fresh air immediately. If breathing difficulty persists, seek medical attention.

Ingestion:

- Rinse mouth with water. Do not induce vomiting unless advised by medical personnel. Consult a healthcare provider immediately.

Handling and Storage

Handling:

- Avoid inhaling vapors or mist. Handle in a well-ventilated area.
- Minimize direct skin and eye contact by wearing appropriate protective clothing and gear.

Storage:

- Store in tightly sealed containers in a cool, dry, and well-ventilated area.
- Keep away from strong oxidizing agents and sources of heat or flames.

Exposure Controls/Personal Protection

Exposure Limits:

- No specific exposure limits established, but exposure should be minimized.

Engineering Controls:

- Install mechanical ventilation or local exhaust systems to control vapor concentrations.

Personal Protective Equipment (PPE):

- **Eye Protection:** Wear safety goggles or a face shield.
- **Skin Protection:** Use chemical-resistant gloves and protective clothing.

- **Respiratory Protection:** Use a respirator when working in areas with potential for mist formation or poor ventilation.

Physical and Chemical Properties

- **Appearance:** Clear, colorless to slightly yellow liquid
- **Odor:** Slight characteristic odor
- **Melting Point:** $< -50^{\circ}\text{C}$
- **Boiling Point:** $> 400^{\circ}\text{C}$
- **Flash Point:** $> 210^{\circ}\text{C}$ (closed cup)
- **Solubility:** Insoluble in water; soluble in organic solvents
- **Vapor Pressure:** Negligible at room temperature
- **Density:** Approximately 0.97 g/cm^3 at 20°C

Stability and Reactivity

Chemical Stability:

- Stable under recommended storage and handling conditions.

Reactivity:

- Non-reactive under normal use conditions.

Conditions to Avoid:

- Avoid high temperatures, ignition sources, and prolonged exposure to strong oxidizers.

Hazardous Decomposition Products:

- May produce carbon monoxide, carbon dioxide, and other organic compounds upon thermal decomposition.

Toxicological Information

- **Acute Toxicity:**
 - LD50 (oral, rat): $> 10,000\text{ mg/kg}$; low acute oral toxicity.
 - LD50 (dermal, rabbit): $> 3,160\text{ mg/kg}$.
- **Skin/Eye Irritation:**
 - May cause mild skin or eye irritation with direct or prolonged contact.
- **Chronic Effects:**
 - No evidence of significant adverse effects with standard handling practices.
- **Carcinogenic Status:**
 - Not classified as a carcinogen under IARC, OSHA, or NTP guidelines.

Disposal Considerations

- Dispose of in accordance with local, regional, and national regulations.
- Do not release into drainage systems, waterways, or the environment.
- Containers should be emptied and cleaned before recycling or disposal to authorized waste management facilities.

Note: This information reflects the current understanding of the product and is intended for safe handling, use, and disposal. Regulatory guidelines must be consulted to ensure full compliance in specific contexts.