

# SAFETY DATA SHEET



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## 24-Hour Emergency Number (CHEMTREC)

USA: 800-424-9300  
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All non-emergency numbers should be directed  
to Customer Service at 800-PURITY1

## DODECANE

SDS No. M0088

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Dodecane

Synonyms: Dihexyl; Bihexyl

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

### 2. HAZARDS IDENTIFICATION



#### **Classification:**

Flammable Liquid: GHS Category 4

#### **Label Elements**

Signal Word: DANGER!

#### Hazard Statements:

- H227 – Combustible liquid and vapor.
- H303 – May be harmful if swallowed.
- H305 – May be harmful if swallowed and enters airways.
- H313 – May be harmful in contact with skin.
- H320 – Causes eye irritation.
- H333 – May be harmful if inhaled.
- H336 – May cause drowsiness and dizziness.

#### Precautionary Statements:

- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

#### **Emergency Overview**

May cause central nervous system depression. May cause irritation to skin, eyes, digestive tract, and respiratory tract. Aspiration hazard if swallowed. Can enter lungs and cause damage. Combustible liquid and vapor. Target Organs: Central nervous system and lungs.

Clear focus. Consistent results. Complete confidence.

HMIS Rating:

Health – 2 Flammability – 2 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Dodecane	112-40-3	>90%	Yes

**4. FIRST-AID MEASURES**

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. Get medical aid.

Ingestion: If swallowed, get medical attention immediately; DO NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

**5. FIRE FIGHTING MEASURES**

Flammability: Combustible liquid and vapor (GHS Category 4)

Auto-ignition Temperature: 205° C (401° F)

Flash Point: 71° C (159° F)

Flammable Limits: Lower Limit – 0.6 vol %, Upper Limit – Not available.

Products of Combustion: May decompose into carbon monoxide, carbon dioxide, or other noxious or toxic fumes in fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Specific Explosion Hazards: None.

Fire Fighting Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

National Fire Protective Association: Health - 1, Flammability - 2, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

**6. ACCIDENTAL RELEASE MEASURES**

Clean up spills immediately. Avoid run-off into storm sewers and ditches which lead to waterways. Provide ventilation to the affected area and remove all ignition sources. Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Use spark-proof tools and proper personal protective equipment as described in section 8.

## 7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep away from heat, sparks, and flame in a flammables area. Store in a cool place in the original container and protect from incompatible substances. Keep under a nitrogen blanket. Keep from contact with oxidizing materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or appropriate eye protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits: None established

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Mild aliphatic hydrocarbon odor.

Molecular Formula:  $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2$

Molecular Weight: 170.34

Auto-ignition Temperature: 205° C (401° F)

Flash Point: 71° C (159° F)

Flammable Limits: Lower Limit – 0.6 vol %, Upper Limit – Not available.

pH: Not available.

Boiling Point: 215-217° C @ 760 mm Hg

Freezing/Melting Point: 9.6° C

Decomposition Temperature: Not available.

Specific Gravity: 0.749 g/cm<sup>3</sup>

Vapor Density (Air=1): 5.9

Vapor Pressure: 1.3 mm Hg @ 20° C.

Evaporation Rate (Ether = 1): Not available.

Viscosity: Not available.

Solubility: In water: 3.7 æG/L (25° C)

## 10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat, incompatible materials.

Incompatibility With Various Substances: Oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Aspiration may lead to pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

INGESTION HAZARD: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated. Possible aspiration hazard. May cause lung damage.

SKIN CONTACT HAZARD: May cause irritation and dermatitis. May cause cyanosis of the extremities.

EYE CONTACT HAZARD: May cause eye irritation. May cause chemical conjunctivitis and corneal damage.

Chronic Exposure Hazards: Prolonged or repeated skin contact may cause defatting and dermatitis.

Animal Toxicity:

Inhalation, rat: LC50 = >142 ppm/8H;

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Environmental Fate: Terrestrial: N-dodecane is expected to have no mobility in soil. Volatilization of n-dodecane from moist soil surfaces is expected to be important. Aquatic: Regression-derived equation, indicates that n-dodecane is expected to adsorb to suspended solids and sediment in water. Atmospheric: Expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase n-dodecane is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals. Will biodegrade but will slightly bioconcentrate.

## 13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. TRANSPORT INFORMATION

Not regulated for transportation.

## 15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: Both CAS# 112-40-3 is listed on the TSCA Inventory.

Health and Safety Reporting List: CAS# 112-40-3 – Not listed.

Chemical Test Rules: CAS# 112-40-3 – Not listed

Section 12b: CAS# 112-40-3 – Not listed

TSCA Significant New Use Rule: Not listed.

CERCLA Hazardous Substances: CAS# 112-40-3 does not have a final RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 112-40-3 – acute, fire

Section 313: Dodecane (CAS# 112-40-3) is not subject to reporting under Section 313 of SARA Title III and 40 CFR 373.

Clean Air Act: CAS# 112-40-3 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 112-40-3 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations: No information available.

Canada:

DSL/NDSL: CAS# 112-40-3 is listed on Canada's DSL list.

WHMIS: This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List:

DSCL (EEC):

Hazard Symbols: Xn

Risk Phrases: R65 – Harmful, may cause lung damage if possible, R66 – Repeated exposure may cause skin dryness and cracking.

Safety Phrases: S36 - Wear suitable protective clothing; S60 - This material and/or its container must be disposed of as hazardous waste; S62 - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/protection): CAS# 112-40-3: Not available.

## 16. OTHER INFORMATION

Originally Prepared: 4/11/2006

Last Revised: 12/20/2011 – Converted to GHS format.

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