

## SAFETY DATA SHEET

Preparation Date: 8/12/2019

Revision date 8/12/2019

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** D2276  
**Product Name:** DODECANE, REAGENT

#### Other means of identification

**Synonyms:** Adakane 12  
 Dihexyl  
 n-Dodecane  
 Bihexyl  
**CAS #:** 112-40-3  
**RTECS #** JR2125000  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** Solvent. In organic synthesis.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Aspiration toxicity	Category 1
Flammable liquids	Category 4

#### Label elements

##### **Warning**

##### **Hazard statements**

May be fatal if swallowed and enters airways  
 Combustible liquid



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Wear protective gloves/protective clothing/eye protection/face protection

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.  
IF SWALLOWED: Immediately call a POISON CENTER or physician  
Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
Dodecane	112-40-3	100

**4. FIRST AID MEASURES**

**First aid measures**

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

**Most important symptoms and effects, both acute and delayed**

- Symptoms**  
Aspiration hazard if swallowed - can enter the lungs and cause damage  
Aspiration into the lungs may cause pulmonary edema  
Aspiration into the lungs may cause chemical pneumonitis  
Ingestion may cause nausea, vomiting, and diarrhea

Central nervous system effects  
Central nervous system depression

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray.  
Alcohol-resistant foam.

**Unsuitable Extinguishing Media:**

Do not use a solid (straight) water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

**Hazardous combustion products**

Carbon Monoxide, Carbon Dioxide.

**Specific hazards**

Combustible material. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapors may form explosive mixtures with air. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks).

**Special Protective Actions for Firefighters**

**Specific Methods:**

No information available

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Remove all sources of ignition. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas. Should not be released into the environment.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

#### **Safe Handling Advice:**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Store away from incompatible materials.

#### **Incompatible Materials:**

Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Dodecane	112-40-3	None	None	None	None

##### **Canada**

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Dodecane	112-40-3	None	None	None	None

### Australia and Mexico

Component	CAS No	Australia	Mexico
Dodecane	112-40-3	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Long sleeved clothing  
Chemical resistant apron  
Gloves
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available.	<b>Color:</b> Colorless.
<b>Odor:</b> No information available.	<b>Taste</b> No information available.	<b>Formula</b> C <sub>12</sub> H <sub>26</sub>
<b>Molecular/Formula weight (g/mole):</b> 170.34	<b>Flammability (solid, gas)</b> Combustible	<b>Flashpoint (°C/°F):</b> 74°C/165°F
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> 0.6%
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> -9.6°C/14.7°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 215-217°C/419-423°F	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> No information available
<b>Specific gravity:</b> 0.75 @ 25 deg. C	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> 0.018 @ 25 deg. C 0.012 @ 20 deg. C 0.0276 @ 30 deg. C 0.119 @ 50 deg. C

**Evaporation rate:**  
No information available

**Vapor density:**  
5.9

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
log Kow = 6.10

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Insoluble in water  
Very soluble in Ether  
Very soluble in Ethanol  
Very soluble in Acetone  
Very soluble in chloroform  
Very soluble in carbon tetrachloride

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous decomposition products:** No information available.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation.

### Acute Toxicity

### Component Information

Dodecane
CAS No   112-40-3

**LD50/oral/rat** = No information available

**LD50/oral/mouse** = No information available

**LD50/dermal/rabbit** = No information available

**LD50/dermal/rat** = No information available

**LC50/inhalation/rat** = >142 ppm Inhalation LC50 Rat 8 h

LC50/inhalation/mouse = No information available  
Other LD50 or LC50 information = No information available

**Product Information**

LD50/oral/rat =  
Value - Acute Toxicity = No information available

LD50/oral/mouse =  
Value - Acute Tox = No information available

LD50/dermal/rabbit  
Value - Acute Toxicity = No information available

LD50/dermal/rat  
VALUE - Acute Tox = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause irritation of respiratory tract. May cause central nervous system effects, central nervous system depression. Inhalation of high concentration of vapors may cause asphyxiation.

**Ingestion** Ingestion may cause nausea, vomiting, diarrhea. Aspiration hazard if swallowed. Aspiration may lead to pulmonary edema. Aspiration into the lungs can cause chemical pneumonitis.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable	Australia - Prohibited
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						<b>Carcinogenic Substances</b>	<b>Carcinogenic Substances</b>
Dodecane	112-40-3	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.  
**Persistence and degradability:** No information available  
**Bioaccumulative potential:** No information available.  
**Mobility in soil** No information available  
**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**  
Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Dodecane	112-40-3	None	None	None	None

**14. TRANSPORT INFORMATION**

**DOT**  
**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available



<b>Hazard Class</b>	No information available
<b>Subsidiary Class</b>	No information available
<b>Packing group:</b>	No information available
<b>Emergency Response Guide Number</b>	No information available
<b>Marine Pollutant</b>	No data available
<b>DOT RQ (lbs):</b>	No information available
<b>Special Provisions</b>	No Information available
<b>Symbol(s):</b>	No information available
<b>Description:</b>	No information available

#### **TDG (Canada)**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Marine Pollutant</b>	No Information available
<b>Description:</b>	No information available

#### **ADR**

<b>UN Number</b>	Not regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	No information available
<b>Subsidiary Risk:</b>	No information available

#### **IMDG**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Marine Pollutant</b>	No information available

#### **RID**

<b>UN Number</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing group</b>	No information available

#### **ICAO (air)**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available

#### **IATA**

<b>UN Number</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing group</b>	No information available
<b>Precautionary Statements - Response</b>	No information available
<b>Special Provisions</b>	No information available

## 15. REGULATORY INFORMATION

### International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
<i>Dodecane</i>	112-40-3	PresentACTIVE	Present KE-12826	Present	Present (2)-10	Present	Present	Present 203-967-9

### U.S. Regulations

#### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

##### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

##### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Dodecane</i>	112-40-3	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Dodecane</i>	112-40-3	None	None	None	None	None

### U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Dodecane</i>	112-40-3	Not Applicable	Not Applicable

### Canada

#### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component  
*Dodecane*  
112-40-3 ( 100 )

WHMIS 2015 Hazard Classification  
Flammable liquids - Category 4: H227 Combustible liquid;  
Aspiration hazard - Category 1: H304 May be fatal if swallowed and enters airways.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

**DSL/NDSL**

Component	CAS No	Canada (DSL)	Canada (NDSL)
Dodecane	112-40-3	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Dodecane	112-40-3	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Dodecane	112-40-3	Not listed

**EU Classification****EU GHS - SV - CLP 1272/2008**

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Dodecane	112-40-3	Asp. Tox. 1 (H304)

**EU - CLP (1272/2008)****R-phrases)**

R65 - Harmful: may cause lung damage if swallowed

**S -phrase(s)**

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Dodecane	112-40-3		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC****Indication of danger:**

Xn - Harmful

**16. OTHER INFORMATION**

**Preparation Date:** 8/12/2019  
**Revision date** 8/12/2019  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**