

## SAFETY DATA SHEET

Preparation Date: 03/21/2015

Revision Date: 06/28/2018

Revision Number: G2

### 1. IDENTIFICATION

**Product identifier**

**Product code:** D1097  
**Product Name:** DIETHYL PHTHALATE, NF

**Other means of identification**

**Synonyms:** 1,2-Benzenedicarboxylic acid, diethyl ester  
 Diethyl 1,2-benzenedicarboxylate  
 Diethyl o-phthalate  
 Ethyl phthalate  
 Phthalol  
 Phthalsaeurediaehtylester  
 o-Benzenedicarboxylic acid diethyl ester

**CAS #:** 84-66-2  
**RTECS #** T11050000  
**CI#:** Not available

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

**Recommended use:** Solvent for cellulose acetate.  
**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:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

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

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

Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity (single exposure)	Category 3

**Label elements**

<b>Warning</b>
<b>Hazard statements</b> Causes eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Causes mild skin irritation

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
Diethyl Phthalate	84-66-2	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. Consult a physician if necessary.

**Eye Contact:**

Flush eyes with water for 15 minutes. Get medical attention.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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

**Symptoms**

Causes eye irritation

May cause irritation of respiratory tract  
May cause skin irritation and/or dermatitis

**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:** Use water spray, mist, alcohol-resistant foam, Dry chemical or Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide.

**Specific hazards:** May be combustible at high temperatures. May be ignited by heat, sparks or flames. When heated to decomposition it emits acrid smoke and irritating fumes.

**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. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. 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. 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. Avoid dust formation. Keep away from incompatible materials. All equipment used when handling the product must be grounded. Remove all sources of ignition.

### **Safe Handling Advice**

Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly sealed. 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. 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 away from incompatible materials.

### **Incompatible Materials:**

Oxidizing agents  
Acids  
permanganates  
Nitric acid

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control parameters

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

##### **United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Diethyl Phthalate	84-66-2	None	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	None

##### **Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Diethyl Phthalate	84-66-2	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	None	None

##### **Australia and Mexico**

Components	CAS-No.	Australia	Mexico
Diethyl Phthalate	84-66-2	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL

### 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:** 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. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> Oily.	<b>Color:</b> Colorless to pale yellow.
<b>Odor:</b> Odorless.	<b>Taste</b> Bitter.	<b>Formula:</b> C <sub>12</sub> H <sub>14</sub> O <sub>4</sub>
<b>Molecular/Formula weight:</b> 222.24 g/mol	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> 161°C
<b>Flashpoint (°C/°F):</b> 161°C/ 322°F	<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 457.0/ 854.6°F
<b>Lower Explosion Limit (%):</b> 0.7%(V) at 186°C(368°F)	<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> -40.5°C/ 104.9°F
<b>Decomposition temperature(°C/°F):</b> No information available	<b>Boiling point/range(°C/°F):</b> 295°C/ 563°F	<b>Bulk density:</b> No information available
<b>Density (g/cm<sup>3</sup>):</b> 1.118-1.122	<b>Specific gravity:</b> No information available	<b>pH:</b> No information available
<b>Vapor pressure @ 20°C (kPa):</b> .0021mmHg	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 7.7
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> 2.47
<b>Viscosity:</b> 11.53 mm <sup>2</sup> /s @ 20°C	<b>Miscibility:</b> Miscible with vegetable oils, ketones, esters, aromatic hydrocarbons	<b>Solubility:</b> Soluble in diethyl ether Soluble in Acetone Soluble in Alcohol Soluble in Benzene Insoluble or very slightly soluble in cold water Solubility in water: 1280 mg/l @ 25°C

## 10. STABILITY AND REACTIVITY

**Reactivity**  
Reactive with acids  
Reactive with oxidizing agents

**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:** Oxidizing agents  
Acids  
permanganates  
Nitric acid

**Hazardous decomposition products:** Carbon monoxide. Carbon dioxide.

**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:**  
Eyes. Skin. Inhalation. Ingestion.

### Acute Toxicity

#### Component Information

Diethyl Phthalate

CAS-No. 84-66-2

**LD50/oral/rat** = 8600-9500 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 6172 mg/kg Oral LD50 Mouse (LOLI) (RTECS)  
6172-8600mg/kg (EU commission) (IUCLID Dataset)

**LD50/dermal/rabbit** = 22400 mg/kg Dermal LD50 Rabbit

**LD50/dermal/rat** = > 11200 mg/kg Dermal LD50

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = 4.89 mg/l

**Other LD50 or LC50 information** = 1000-4000mg/kg Oral LD50 Rabbit

5000-8600 mg/kg Oral LD50 Guinea Pig

>20 ml/kg Dermal LD50 Guinea Pig

>4.64 mg/l Inhalation LC50 Rat 6/H

#### Product Information

**LD50/oral/rat** =

**VALUE- Acute Tox Oral** = 8600 mg/kg

**LD50/oral/mouse** =

**Value - Acute Tox Oral** = 6172 mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = > 22400 mg/kg

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = 11200 mg/kg

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**Product code:** D1097

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VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

**LC50/Inhalation/mouse**

VALUE-Vapor = 4.89 mg/l  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation. Mild skin irritation. May be absorbed through the skin. Prolonged skin contact causes dermatitis.

**Eye Contact:** Causes eye irritation. Causes lacrimation.

**Inhalation** Breathing in mist or vapor may cause respiratory tract (nose, throat) irritation. Symptoms include coughing and hoarseness, and dyspnea. Contact with mist or vapor may cause lacrimation. Inhalation of high concentrations may affect behavior/central nervous system (central nervous system depression, headache, dizziness, polyneuropathy (paresthesia), and pain, numbness, weakness, muscle spasms in the arms and legs. Sensitive individuals may develop allergic reaction similar to asthma when chronically exposed to diethyl phthalate.

**Ingestion** Ingestion of large doses may cause gastrointestinal tract irritation. May affect behavior/central nervous system (somnolence, withdrawal and other symptoms similar to that of inhalation), metabolism (weight loss). Prolonged or repeated ingestion may affect the liver, metabolism (weight loss), blood (changes in serum composition), urinary system (bladder), behavior/central nervous system. May cause pupillary constriction.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** Experiments with bacteria and/or yeast have shown mutagenic effects  
Mutations in microorganisms

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Diethyl Phthalate	84-66-2	Not listed	A4 Not Classifiable as a Human Carcinogen	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:** May cause adverse reproductive effects based on animal data  
It has not been shown to affect reproduction in humans

**Developmental Effects:** May cause adverse developmental effects based on animal data  
No information on developmental toxicity effects on humans was found

**Teratogenic Effects:** Teratogenicity was found only in animal studies when given in large doses to produce maternal toxicity. Not found teratogenic at lower doses. No human data available.

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** Liver. Central nervous system.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Diethyl Phthalate - 84-66-2*

**Freshwater Algae Data:** 23 mg/L EC50 *Desmodesmus subspicatus* 72 h 21 mg/L EC50 *Desmodesmus subspicatus* 96 h 42 - 255 mg/L EC50 *Pseudokirchneriella subcapitata* 72 h 2.11 - 4.29 mg/L EC50 *Pseudokirchneriella subcapitata* 96 h

**Freshwater Fish Species Data:** 17 mg/L LC50 *Pimephales promelas* 96 h flow-through 1 16.8 mg/L LC50 *Pimephales promelas* 96 h static 1 22 mg/L LC50 *Lepomis macrochirus* 96 h flow-through 1 16.7 mg/L LC50 *Lepomis macrochirus* 96 h static 1 12 mg/L LC50 *Oncorhynchus mykiss* 96 h flow-through 1

**Water Flea Data:** 36 - 74 mg/L EC50 *Daphnia magna* 48 h 86 mg/L EC50 *Daphnia magna* 48 h

**Persistence and degradability:** Biodegradable ( 94.6 % after 28 days)

**Bioaccumulative potential:** An estimated Biocentration Factor (BCF) value of 117.

**Mobility:** 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

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Diethyl Phthalate	84-66-2	None	None	None	U088

**14. TRANSPORT INFORMATION**

**DOT**

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



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

**TDG (Canada)**

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

**ADR**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available

**IMO / IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No information available

**RID**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**ICAO**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**ERG Code:** No information available  
**Special Provisions** No information available

**15. REGULATORY INFORMATION**

## International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Diethyl Phthalate	84-66-2	PresentACTIVE	Present KE-02216	Present	Present (3)-1301	Present	Present	Present 201-550-6

## U.S. Regulations

### Diethyl Phthalate

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** sn 0707  
**New Jersey (EHS) List:** sn 0707 500 lb TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
 1000 lb RQ  
 1 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** Listed  
**California Directors List of Hazardous Substances:** Present

### 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)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Diethyl Phthalate	84-66-2	Not Listed	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Components	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
Diethyl Phthalate	84-66-2	1000 lb final RQ 454 kg final RQ	None	None	None	None

## U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Diethyl Phthalate	84-66-2	Not Applicable	Not Applicable

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Not a dangerous product according to HPR classification criteria.

Component  
 Diethyl Phthalate  
 84-66-2 ( 100 )

WHMIS 2015 Hazard Classification  
 Not a dangerous product according to HPR classification criteria

**Product code:** D1097

**Product name:** DIETHYL  
PHTHALATE, NF

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**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

**WHMIS 1988 Hazard Class**

Non-controlled

**Components**  
Diethyl Phthalate

WHMIS 1988  
Uncontrolled product according to WHMIS classification criteria

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Diethyl Phthalate	0.1 %

**Inventory**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Diethyl Phthalate	84-66-2	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Diethyl Phthalate	84-66-2	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Diethyl Phthalate	84-66-2	Not listed

**EU Classification**

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

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Diethyl Phthalate	84-66-2	No information

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

**R-phrase(s)**

Not determined

**S -phrase(s)**

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Diethyl Phthalate	84-66-2		No information	

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

**Indication of danger:**

not determined

**16. OTHER INFORMATION**

Preparation Date: 03/21/2015  
Revision Date: 06/28/2018  
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**