1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Diethyl phthalate
Product Number: 524972
Brand: Aldrich
Supplier: Sigma-Aldrich Corporation
3050 Spruce Street
SAINT LOUIS MO 63103 USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
No known OSHA hazards

GHS Classification
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements
Pictogram: none
Signal word: none
Hazard statement(s)
H402 Harmful to aquatic life.
Precautionary statement(s)
none

HMIS Classification
Health hazard: 0
Flammability: 1
Physical hazards: 0

NFPA Rating
Health hazard: 0
Fire: 1
Reactivity Hazard: 0

Potential Health Effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS
4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**
Diethyl phthalate 84-66-2 TWA 5 mg/m³ USA. ACGIH Threshold Limit Values (TLV)

| Remarks | Upper Respiratory Tract irritation Not classifiable as a human carcinogen |

| TWA | 5 mg/m³ | USA. NIOSH Recommended Exposure Limits |

| TWA | 5 mg/m³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

**Personal protective equipment**

**Respiratory protection**
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
Form liquid
Colour light yellow

**Safety data**

<table>
<thead>
<tr>
<th>pH</th>
<th>no data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>Melting point/range: -3 °C (27 °F) - lit.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>298 - 299 °C (568 - 570 °F) - lit.</td>
</tr>
<tr>
<td>Flash point</td>
<td>156.0 °C (312.8 °F) - closed cup</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>457 °C (855 °F)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>457.0 °C (854.6 °F)</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>0.75 % (V)</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>&lt; 28 hPa (&lt; 21 mmHg) at 25 °C (77 °F)</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>1.12 g/cm³ at 25 °C (77 °F)</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>0.932 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - slightly soluble</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>log Pow: 2.2 at 41 °C (106 °F)</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>11.53 mm²/s at 20 °C (68 °F)</td>
</tr>
<tr>
<td><strong>Relative vapour density</strong></td>
<td>7.7 - (Air = 1.0)</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
no data available

**Materials to avoid**
Oxidizing agents, acids

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Oral LD₅₀**
LD₅₀ Oral - rat - 8,600 mg/kg

**Inhalation LC₅₀**
LC₅₀ Inhalation - rat - 6 h - > 4,640 mg/m³

**Dermal LD₅₀**
LD₅₀ Dermal - rat - male and female - > 10,000 mg/kg

**Other information on acute toxicity**
no data available

**Skin corrosion/irritation**
Skin - rabbit - No skin irritation - 24 h

**Serious eye damage/eye irritation**
Eyes - rabbit - Moderate eye irritation

**Respiratory or skin sensitisation**
mouse - Did not cause sensitisation on laboratory animals. - OECD Test Guideline 429

**Germ cell mutagenicity**

Genotoxicity in vitro - mouse - lymphocyte - with and without metabolic activation - negative
Genotoxicity in vitro - Ames test - S. typhimurium - with and without metabolic activation - negative

**Carcinogenicity**
Carcinogenicity - mouse - Skin
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
Reproductive toxicity - rat - Intraperitoneal
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.
Reproductive toxicity - mouse - male - Oral

**Teratogenicity**
Developmental Toxicity - rat - Oral
Specific Developmental Abnormalities: Musculoskeletal system.
Developmental Toxicity - mouse - Skin
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. May cause respiratory tract irritation.</td>
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<td>Eyes</td>
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</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**
no data available

**Additional Information**
Repeated dose toxicity - rat - male and female - Oral - No observed adverse effect level - 150 mg/kg
RTECS: TI1050000

12. ECOLOGICAL INFORMATION

**Toxicity**

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>static test LC50</td>
<td>Oncorhynchus mykiss (rainbow trout) - 12 mg/l - 96 h</td>
</tr>
</tbody>
</table>
Toxicity to daphnia and other aquatic invertebrates

Toxicity to algae

**Persistence and degradability**

Biodegradability: aerobic

Result: 94.6% - Readily biodegradable.

**Bioaccumulative potential**

Bioaccumulation: Lepomis macrochirus (Bluegill) - 21 d

Bioconcentration factor (BCF): 117

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

### 13. DISPOSAL CONSIDERATIONS

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)**

UN number: 3082  Class: 9  Packing group: III

Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (Diethyl phthalate)

Reportable Quantity (RQ): 1000 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 15. REGULATORY INFORMATION

**OSHA Hazards**

No known OSHA hazards

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**
Diethyl phthalate  CAS-No.  84-66-2  Revision Date  1994-04-01

**Pennsylvania Right To Know Components**

Diethyl phthalate  CAS-No.  84-66-2  Revision Date  1994-04-01

**New Jersey Right To Know Components**

Diethyl phthalate  CAS-No.  84-66-2  Revision Date  1994-04-01

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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