Material Safety Data Sheet
Dibutyl phthalate

ACC# 00530

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Dibutyl phthalate  
**Catalog Numbers:** AC166600000, AC166600010, AC166600025, AC166600050, AC166605000, 16660-2500, D30-4, D30-500  
**Synonyms:** Di-n-butyl phthalate; 1,2-Benzenedicarboxylic acid, dibutyl ester; DBP; n-Butyl phthalate; Phthalic acid, dibutyl ester.  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-74-2</td>
<td>Dibutyl phthalate</td>
<td>99</td>
<td>201-557-4</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: colorless to light yellow.  
**Warning!** May cause harm to the unborn child. May cause eye, skin, and respiratory tract irritation. Possible risk of impaired fertility. Marine pollutant.  
**Target Organs:** Reproductive system.

**Potential Health Effects**  
**Eye:** May cause eye irritation. Causes redness and pain.  
**Skin:** May cause skin irritation. Causes redness and pain. May be harmful if absorbed through the skin.  
**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.  
**Inhalation:** Inhalation of a mist of this material may cause respiratory tract irritation. Material has a low vapor pressure at room temperature, so exposure to vapor is not likely. May be harmful if inhaled. May cause central nervous system effects.  
**Chronic:** May cause adverse reproductive effects. Possible risk of harm to the unborn child. Reduced

http://fscimage.fishersci.com/msds/00530.htm
testes weights and histologic evidence of testicular injury were found in mice and guinea pigs but not in hamsters or rats fed 2000 mg DBP/kg/day for 10 days. Male and female mice fed 1300 mg DBP/kg/day in the diet for 4 months before and after breeding resulted in a reduction in the number of litters per mating pair, fewer live pups per litter, and a lower proportion of pups born alive. No effects on reproduction were observed at 390 mg/kg/day. (Documentation of the TLV)

Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

**Notes to Physician:** Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** 157 deg C (314.60 deg F)

**Autoignition Temperature:** 402 deg C (755.60 deg F)

**Explosion Limits, Lower:** 0.5% @ 235°C

**Upper:** 2.5%

**NFPA Rating:** (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and
clothing. Avoid breathing spray or mist.  
**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dibutyl phthalate</td>
<td>5 mg/m3 TWA</td>
<td>5 mg/m3 TWA 4000 mg/m3 IDLH</td>
<td>5 mg/m3 TWA</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Dibutyl phthalate: 5 mg/m3 TWA

**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

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### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** colorless to light yellow

**Odor:** odorless

**pH:** Not available.

**Vapor Pressure:** 0.00007 mm Hg @ 25 deg C

**Vapor Density:** 9.58 (air=1)

**Evaporation Rate:** 0 (butyl acetate=1)

**Viscosity:** 21 cps @ 20 deg C

**Boiling Point:** 340 deg C

**Freezing/Melting Point:** -35 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble.

**Specific Gravity/Density:** 1.043

**Molecular Formula:** C16H22O4

**Molecular Weight:** 278.34

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### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, acrid smoke and fumes.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: 
CAS# 84-74-2: TI0875000
LD50/LC50:
CAS# 84-74-2:
   Inhalation, mouse: LC50 = 25 gm/m3/2H;
   Inhalation, rat: LC50 = 4250 mg/m3;
   Oral, mouse: LD50 = 3474 mg/kg;
   Oral, rat: LD50 = 7499 mg/kg;
   Skin, rabbit: LD50 = >20 mL/kg;

Carcinogenicity:
CAS# 84-74-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: Boys of moms highly exposed to phthalates show stunted genitals. The higher the levels
of phthalates in the mothers during the final months of pregnancy, the less masculine their boys were
when examined by pediatricians. (Pittsburgh Post-Gazette 5/27/05)
Reproductive Effects: See actual entry in RTECS for complete information.
Mutagenicity: See actual entry in RTECS for complete information.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: 1.2mg/L; 96H; Fish: Fathead Minnow: 1.3mg/L; 96H; No data
available.
Environmental: Terrestrial: Expected to have low mobility in soil. Volatilization from dry soil surfaces is
not expected. Aquatic: Expected to adsorb to suspended solids and sediment in water. Expected to
volatilize from water surfaces. Estimated half-lives for a model river and model lake are 14nd 125 days.
Atmospheric: Expected to exist in both the vapor and particulate phases in the ambient atmosphere. Half-
life 42 hours.
Physical: Expected to biodegrade and slightly bioconcentrate.
Other: Dangerous to aquatic life in high concentrations.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous
waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally,
waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:**
CAS# 84-74-2: waste number U069.

## Section 14 - Transport Information

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>NOT REGULATED FOR DOMESTIC TRANSPORT</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td>XCP</td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Packing Group:</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>Additional Info:</strong></td>
<td>SUBSTANCES, LIQUID, N.O.S.</td>
</tr>
</tbody>
</table>

## Section 15 - Regulatory Information

### US FEDERAL

**TSCA**
CAS# 84-74-2 is listed on the TSCA inventory.

**Health & Safety Reporting List**
None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
CAS# 84-74-2: 40 CFR 799.5000

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**
CAS# 84-74-2: 10 lb final RQ; 4.54 kg final RQ

**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ.

**SARA Codes**
CAS # 84-74-2: immediate, delayed.

**Section 313**
This material contains Dibutyl phthalate (CAS# 84-74-2, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**
CAS# 84-74-2 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**
CAS# 84-74-2 is listed as a Hazardous Substance under the CWA. CAS# 84-74-2 is listed as a Priority Pollutant under the Clean Water Act.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 84-74-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains Dibutyl phthalate, a chemical known to the state of California to cause male reproductive toxicity.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
T N
Risk Phrases:
R 50 Very toxic to aquatic organisms.
R 61 May cause harm to the unborn child.
R 62 Possible risk of impaired fertility.

Safety Phrases:
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)
CAS# 84-74-2: 2

Canada - DSL/NDSL
CAS# 84-74-2 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2A.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
CAS# 84-74-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 1/26/1999
Revision #10 Date: 2/08/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.