

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, AC166602500, AC166605000, AC9878065, S75115, 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

CAS#	Chemical Name	Percent	EINECS/ELINCS
84-74-2	Dibutyl phthalate	99	201-557-4

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.

Skin: May cause skin irritation. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Inhalation of a mist of this material may cause respiratory tract irritation. Material has a low vapor pressure, so exposure to vapor is not likely. May cause central nervous system effects.

Chronic: May cause adverse reproductive effects. Possible risk of harm to the unborn child. Reduced 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.

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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dibutyl phthalate	5 mg/m3 TWA	5 mg/m3 TWA 4000 mg/m3 IDLH	5 mg/m3 TWA

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.

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

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

	US DOT	Canada TDG
Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS
Hazard Class:	9	9
UN Number:	UN3082	UN3082
Packing Group:	III	III
Additional Info:		SUBSTANCES, LIQUID, N.O.S.

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: Test for Environmental Effects

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 depleters.

This material does not contain any Class 2 Ozone depleters.

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

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 #8 Date: 11/30/2005

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.