

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Di-*n*-butyl phthalate

Product Number : 48559  
Brand : Supelco

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Teratogen

##### Target Organs

Eyes, Kidney, Liver, Lungs, Testes., Central nervous system

##### GHS Classification

Reproductive toxicity (Category 1B)

Acute aquatic toxicity (Category 1)

Chronic aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H360

May damage fertility or the unborn child.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201

Obtain special instructions before use.

P273

Avoid release to the environment.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

P501

Dispose of contents/ container to an approved waste disposal plant.

#### HMIS Classification

Health hazard: 1

Chronic Health Hazard: \*

Flammability: 1

Physical hazards: 0

#### NFPA Rating

**Health hazard:** 2  
**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.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : *n*-Butyl phthalate  
Phthalic acid dibutyl ester  
Dibutyl phthalate  
DBP

Formula : C<sub>16</sub>H<sub>22</sub>O<sub>4</sub> C<sub>16</sub>H<sub>22</sub>O<sub>4</sub>

Molecular Weight : 278.34 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Dibutyl phthalate</b>			
84-74-2	201-557-4	607-318-00-4	-

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### 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.

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### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

#### 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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid inhalation of vapour or mist.  
Normal measures for preventive fire protection.

### 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.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Dibutyl phthalate	84-74-2	TWA	5 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Upper Respiratory Tract irritation Testicular damage			
		TWA	5 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	5 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	5 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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.

#### Eye protection

Safety glasses with side-shields conforming to EN166 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form liquid, clear

Colour colourless

### Safety data

pH no data available

Melting point/freezing point Melting point/range: -35 °C (-31 °F) - lit.

Boiling point	340 °C (644 °F) - lit.
Flash point	171.0 °C (339.8 °F) - closed cup
Ignition temperature	402 °C (756 °F)
Autoignition temperature	402.0 °C (755.6 °F)
Lower explosion limit	0.47 %(V)
Upper explosion limit	
Vapour pressure	1.3 hPa (1.0 mmHg) at 147.0 °C (296.6 °F)
Density	1.043 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 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

Strong oxidizing agents, Nitrates, Bases, acids, Chlorine

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 8,000 mg/kg

#### Inhalation LC50

LC50 Inhalation - rat - 4,250 mg/m<sup>3</sup>

#### Dermal LD50

LD50 Dermal - rabbit - > 20,860 mg/kg

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

## Germ cell mutagenicity

no data available

## Carcinogenicity

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

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

## Teratogenicity

Presumed human reproductive toxicant

## 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

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

## Signs and Symptoms of Exposure

Nausea, Dizziness, Headache, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Synergistic effects

no data available

## Additional Information

RTECS: TI0875000

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## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 0.85 mg/l - 96.0 h NOEC - Pimephales promelas (fathead minnow) - 0.32 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates.	LC50 - Daphnia magna (Water flea) - 3.7 mg/l - 48 h

### Persistence and degradability

no data available

**Bioaccumulative potential**

Bioaccumulation Pimephales promelas (fathead minnow) - 11 d  
Bioconcentration factor (BCF): 2,165

**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.

Very toxic to aquatic life with long lasting effects.

no data available

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**13. DISPOSAL CONSIDERATIONS**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION**

**DOT (US)**

UN number: 3082 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (Dibutyl phthalate)  
Reportable Quantity (RQ): 10 lbs  
Marine pollutant:  
Poison Inhalation Hazard: No

**IMDG**

UN number: 3082 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibutyl phthalate)  
Marine pollutant: Marine pollutant

**IATA**

UN number: 3082 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Dibutyl phthalate)

**Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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**15. REGULATORY INFORMATION**

**OSHA Hazards**

Teratogen

**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**

	CAS-No.	Revision Date
Dibutyl phthalate	84-74-2	2007-07-01

**SARA 311/312 Hazards**

Chronic Health Hazard

**Massachusetts Right To Know Components**

Dibutyl phthalate

CAS-No.  
84-74-2Revision Date  
2007-07-01**Pennsylvania Right To Know Components**

Dibutyl phthalate

CAS-No.  
84-74-2Revision Date  
2007-07-01**New Jersey Right To Know Components**

Dibutyl phthalate

CAS-No.  
84-74-2Revision Date  
2007-07-01**California Prop. 65 Components**WARNING! This product contains a chemical known to the State of  
California to cause birth defects or other reproductive harm.CAS-No.  
84-74-2Revision Date  
2008-06-17

Dibutyl phthalate

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**16. OTHER INFORMATION****Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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