

SAFETY DATA SHEET



1. PRODUCT

1.1 Product identifiers

Name: Diethyl phthalate

CAS-No.: 84-66-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram	N/A
Signal word	none
Hazard statement(s)	H402 Harmful to aquatic life.
Precautionary statement(s)	P273 Avoid release to the environment. P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: DEP
Formula: $C_{12}H_{14}O_4$
Molecular weight: 222.24 g/mol
CAS-No.: 84-66-2
EC-No.: 201-550-6

Hazardous components

Component	Classification	Concentration
Diethyl phthalate	Aquatic Acute 3; H402	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.2 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

For personal protection see section 8.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Diethyl phthalate	84-66-2	TWA	5.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Not classifiable as a human carcinogen		
		TWA	5.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		PEL	5 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin 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: Dermatrill® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatrill® (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.
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.
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).
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid Colour: light yellow
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 3 °C (37 °F) - lit.
Initial boiling point and boiling range	298 - 299 °C (568 - 570 °F) - lit.
Flash point	156.0 °C (312.8 °F) - closed cup

Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Lower explosion limit: 0.75 %(V)
Vapour pressure	< 28 hPa (< 21 mmHg) at 25 °C (77 °F)
Vapour density	7.7 - (Air = 1.0)
Relative density	1.12 g/mL at 25 °C (77 °F)
Water solubility	0.932 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - slightly soluble
Partition coefficient: n-octanol/water	log Pow: 2.2 at 41 °C (106 °F)
Auto-ignition temperature	457.0 °C (854.6 °F)
Decomposition temperature	No data available
Viscosity	11.53 mm ² /s at 20 °C (68 °F) -
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

Relative vapour density: 7.7 - (Air = 1.0)

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Oxidizing agents, acids

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 8,600 mg/kg Remarks: Behavioral: Somnolence (general depressed activity). LC50 Inhalation - Rat - 6 h - > 4,640 mg/m ³ LD50 Dermal - Rat - male and female - > 10,000 mg/kg No data available
Skin corrosion/irritation
Skin - Rabbit Result: No skin irritation - 24 h
Serious eye damage/eye irritation
Eyes - Rabbit Result: Moderate eye irritation
Respiratory or skin sensitisation

- Mouse Result: Did not cause sensitisation on laboratory animals. (OECD Test Guideline 429)
Germ cell mutagenicity
Mouse lymphocyte Result: negative Ames test S. typhimurium Result: 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 Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Prostate, seminal vesicle, Cowper's gland, accessory glands. Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). 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
No data available
Specific target organ toxicity -repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
Repeated dose toxicity Rat - male and female - Oral - NOAEL : 150 mg/kg RTECS: T11050000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 12 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Daphnia magna (Water flea) - 90 mg/l - 48 h
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - 23 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	No data available

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 94.6 % - Readily biodegradable
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12.3 Bioaccumulative potential

Bioaccumulation	Lepomis macrochirus (Bluegill) - 21 d - 0.00942 mg/l Bioconcentration factor (BCF): 117
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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

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

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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 substance, liquid, n.o.s. (Diethyl phthalate)

Reportable Quantity (RQ): 1000 lbs

Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components

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

SARA 313 Components

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

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

Pennsylvania Right To Know Components

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

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
Diethyl phthalate	84-66-2	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

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute Acute aquatic toxicity

H402 Harmful to aquatic life.

HMIS Rating

Health hazard: 0

Chronic Health Hazard:

Flammability: 1

Physical Hazard 0

NFPA Rating

Health hazard: 0

Fire Hazard: 1

Reactivity Hazard: 0

Disclaimer: 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. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.