

Safety Data Sheet

Product name: Dibutyl phthalate

CAS No.: 84-74-2

Prepared in accordance with GB/T 16483, GB/T 17519

SECTION 1: Identification of the substance/mixture and of the company/undertaking

>Product identifier

- Product name: Dibutyl phthalate
- CBnumber: CB7161937
- CAS: 84-74-2
- EINECS Number: 201-557-4
- Synonyms: DIBUTYL PHTHALATE,DBP

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

- Relevant identified uses: For R&D use only. Not for medicinal, household or other use.
- Uses advised against: none

>Company Identification

- Company: Linyi Tuohui New Materials Co., Ltd.
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SECTION 2: Hazards identification

>GHS Label elements, including precautionary statements

- Symbol(GHS) 
- Signal word Danger

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P307+P311 IF exposed: call a POISON CENTER or doctor/physician.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P391 Collect spillage. Hazardous to the aquatic environment

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container to.....

Hazard statements

H225 Highly Flammable liquid and vapour

H317 May cause an allergic skin reaction

H320 Causes eye irritation

H335 May cause respiratory irritation

H360 May damage fertility or the unborn child

H361 Suspected of damaging fertility or the unborn child

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

H373 May cause damage to organs through prolonged or repeated exposure

H400 Very toxic to aquatic life

H412 Harmful to aquatic life with long lasting effects

Disposal

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/di-n-butyl-phthalate-dbp>

SECTION 3: Composition/information on ingredients

>Substance

- Product name: Dibutyl phthalate

- Synonyms: DIBUTYL PHTHALATE,DBP
- CAS: 84-74-2
- EC number: 201-557-4
- MF: C16H22O4
- MW: 278.34

SECTION 4: First aid measures

>Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

>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

>Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

>Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

>Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

>Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

>Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

>NFPA 704

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SECTION 6: Accidental release measures

>Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

>Environmental precautions

Do not let product enter drains.

>Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemisorb). Dispose of properly. Clean up affected area.

>Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

>Precautions for safe handling

> Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

> Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

>Conditions for safe storage, including any incompatibilities

> Storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

>Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

>control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

>Exposure controls

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). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm Break through time: 480 min

Material tested: Camatril (KCL 730 / Aldrich Z677442, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 60 min

Material tested: KCL 741 Dermatril L

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

Exposure limits

NIOSH REL: TWA 5 mg/m³, IDLH 4,000 mg/m³; OSHA PEL: TWA 5 mg/m³; ACGIH TLV: TWA 5 mg/m³.

SECTION 9: Physical and chemical properties

>Information on basic physicochemical properties

- Appearance colorless liquid, clear
- Odour ester-like
- Odour Threshold No data available
- pH at 10 mg/l at 20 °C neutral
- Melting point/freezing point Melting point/range: -35 °C - lit.
- Initial boiling point and boiling range 340 °C - lit.
- Flash point 186,5 °C - open cup
- Evaporation rate No data available
- Flammability (solid, gas) No data available
- Upper/lower flammability or explosive limits Lower explosion limit: ca. 0,4 % (V)
- Vapour pressure < 0,1 hPa at 20 °C

- Vapour density 9,58
- Relative density 1.049 (20/20°C)
- Water solubility ca. 0,0114 g/l at 25 °C - OECD Test Guideline 105- slightly soluble
- Partition coefficient: n-octanol/water log Pow: 4,46 at 30 °C - Potential bioaccumulation
- Autoignition temperature ca. 390 °C at 1.000 hPa - DIN 51794
- Decomposition temperature No data available
- Viscosity Viscosity, kinematic: 18,8 mm²/s at 20 °C - ASTM D 445 Viscosity, dynamic: No data available
- Explosive properties No data available
- Oxidizing properties No data available
- Henry's Law Constant $6.3 \times 10^{-5} \text{ atm} \cdot \text{m}^3/\text{mol}$ (quoted, Petrasek et al., 1983)

>Other safety information

Relative vapor density

9,58

SECTION 10: Stability and reactivity

>Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

>Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

>Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents Chlorine

Bases nitrates acids

>Conditions to avoid

Strong heating.

>Incompatible materials

various plastics

>Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

>Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 6.279 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - $\geq$ 15,68 mg/l Remarks: (ECHA)

LD50 Dermal - Rabbit - $>$ 21.000 mg/kg Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h (OECD Test Guideline 405)

Respiratory or skin sensitization

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation Result: negative

Remarks: (ECHA)

Test Type: Micronucleus test Species: Mouse

Application Route: Oral

Result: negative Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

Specific target organ toxicity - repeated exposure

Aspiration hazard

Toxicity

Acute oral LD50 for rats 8,000 mg/kg (RTECS, 1985).

SECTION 12: Ecological information

>Toxicity

Toxicity to fish

static test LC50 - *Lepomis macrochirus* (Bluegill sunfish) - ca. 0,48 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - ca. 2,99 mg/l - 48 h (US-EPA)

Toxicity to algae

static test EC50 - *Pseudokirchneriella subcapitata* (green algae) - 0,75 mg/l - 10 d

(US-EPA)

static test NOEC - *Pseudokirchneriella subcapitata* (green algae) - 0,39 mg/l - 10 d

(US-EPA)

Toxicity to bacteria

EC50 - *Tetrahymena pyriformis* - 2,2 mg/l - 24 h

Remarks: (ECHA)

>Persistence and degradability

Biodegradability Result: 81 % - Readily biodegradable.

(Regulation (EC) No. 440/2008, Annex, C.4-C)

>Bioaccumulative potential

Bioaccumulation *Pimephales promelas* (fathead minnow) - 11 d

- 0,0348 mg/l(dibutyl phthalate)

Bioconcentration factor (BCF): 2.165 Remarks: Does not bioaccumulate.

>Mobility in soil

No data available

>Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

>Toxics Screening Level

The initial threshold screening level (ITSL) for dibutyl phthalate (DBP) is 50 µg/m³ (8-hour average).

>Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

>Waste treatment methods

> Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Incompatibilities

Dibutyl phthalate reacts violently with chlorine. It also reacts with oxidizing agents, acids, bases, and nitrates.

SECTION 14: Transport information

>UN number

ADR/RID: 3082 IMDG: 3082 IATA: 3082

>UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dibutyl phthalate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dibutyl phthalate)

IATA: Environmentally hazardous substance, liquid, n.o.s. (dibutyl phthalate)

>Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

>Packaging group

ADR/RID: III IMDG: III IATA: III

>Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

>Special precautions for user

> 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.

SECTION 15: Regulatory information

>Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

SECTION 16: Other information

>Abbreviations and acronyms

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstracts Service
- EC50: Effective Concentration 50%
- IATA: International Air Transportation Association
- IMDG: International Maritime Dangerous Goods
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

- STEL: Short term exposure limit
- TWA: Time Weighted Average

>References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>