Beijing Vokai Biotechnology Co., LTD
Tel:010-62971590
Fax:62340519
Http:www.bjoka-vip.com
M-ail:postmaster@oka-vip.com

SAFETY DATA SHEETS

According to the UN GHS revision 8

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name Dimethyl phthalate

1.2 Other means of identification

Other names

1.3 Recommended use of the chemical and restrictions on use

Identified uses	Dimethyl phthalate is used in solid rocket propellants, lacquers, plastics, safety glasses, rubber coating agents, molding powders, insect repellants, and pesticides.
Uses advised against	no data available

1.4 Supplier's details

Company	Beijing Vokai Biotechnology Co., LTD
Address	New Materials Venture Building, 7 Fenghui Middle Rd, Haidian Dist., Beijing.
Tel	010-62971590
Email	postmaster@oka-vip.com

1.5 Emergency phone number

Emergency phone number	+86-0532-3889090
Service hours	Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s)	No symbol.
Signal word	No signal word
Hazard statement(s)	none
Precautionary statement(s)	
Prevention	none
Response	none
Storage	none
Disposal	none

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Dimethyl phthalate	Dimethyl phthalate	131-11-3	205-011-6	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Rinse and then wash skin with water and soap.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth.

4.2 Most important symptoms/effects, acute and delayed

Symptoms unlikely from any exposure. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Esters and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water or foam may cause frothing.

5.2 Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

5.3 Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

This study investigated the feasibility of using ozone-GAC process to remove phthalate esters from drinking water through a batch-scale study and adsorption isotherms. Dimethyl phthalate (DMP), diethyl phthalate (DEP) and dibutyl phthalate (DBP) were selected as the representative of phthalate esters. Results indicated that ozonation removes more than 40% DMP, DEP and DBP, GAC absorbed all the DMP, DEP and DBP that had not been oxidized by ozone at the condition of the Empty Bed Contact Time

(EBCT) from 4 minutes to 12 minutes. The isotherms for GAC were successful correlated by Freundlich equation, and the date was used to estimate GAC service time. The results indicated that ozone-GAC process is a feasible way to remove DMP, DEP and DBP from drinking water.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Store in an area without drain or sewer access.Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 5 mg/m3, as TWA

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid. Oily.
Colour	Colorless.
Odour	Slight aromatic odor
Melting point/freezing point	5.5 °C. Atm. press.:101.3 kPa.
Boiling point or initial boiling point and boiling range	282 °C. Atm. press.:760 mm Hg.
Flammability	Class IIIB Combustible Liquid: Fl.P. at or above 200°F.; however, ignition is difficult.
Lower and upper explosion limit/flammability limit	Lower flammable limit: 0.9% by volume at 358 deg F (180 deg C)
Flash point	149 °C. Atm. press.:760 mm Hg.
Auto-ignition temperature	555 °C. Atm. press.:760 mm Hg.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	17.2 cP at 25 deg C
Solubility	less than 1 mg/mL at 68° F (NTP, 1992)

Partition coefficient n-octanol/water	log Pow = 1.56. Remarks:No data on temp. and pH.
Vapour pressure	< 0.01 mm Hg. Temperature:20 °C.
Density and/or relative density	1.189 g/cm³. Temperature:25 °C.
Relative vapour density	6.69 (NTP, 1992) (Relative to Air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on burning. This produces irritating fumes.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Combustible.DIMETHYL PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges by swirling or pouring [Handling Chemicals Safely, 1980. p. 250].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible materials: Oxidizing agents, acids

10.6 Hazardous decomposition products

Hazardous decomposition products: toxic gases and vapors (such as carbon monoxide) may be released in a fire involving dimethylphthalate.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - mouse - 7 200 mg/kg bw.
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

CLASSIFICATION: D; not classifiable as to human carcinogenicity. BASIS FOR CLASSIFICATION: Pertinent data regarding carcinogenicity data was not located in the available literature. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: Inadequate. Classification based on former EPA guidelines

Reproductive toxicity

No information is available on the reproductive or developmental effects of dimethyl phthalate in humans. In one animal study,

exposure to dimethyl phthalate via gavage had no effects on reproduction.

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50; Species: Lepomis macrochirus (bluegill); Conditions: static, hardness 28 to 44 mg/L at CaCO3, Alkalinity 20 to 30 mg/L CaCO3, pH 6.7 to 7.4, Dissolved oxygen concn 5.3 to 7.0 mg/L, 20 to 24 deg C; Concentration: 350 mg/L for 24 hr /> or = 80% purity
- Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - 150 mg/L - 24 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 39.8 mg/L - 96 h.
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: After a 2.7 day lag, dimethyl phthalate was degraded in a shake-flask biodegradation test utilizing a soil/sewage inoculum with a half-life of 1.9 days(1). After 28 days, >99% of the dimethyl phthalate had disappeared and 86% mineralization had occurred(1). Dimethyl phthalate was completely degraded within 7 days in a static flask screening test with a wastewater inoculum(2). In two operating plants, 88 and 58% of the dimethyl phthalate was mineralized by the digested municipal sludge(3). In waste water treatment plants, essentially 100% removal resulting from biodegradation was reported(4-6). In a survey of publicly owned treatment works, an average removal of 97% was attributed to biodegradation(7). Dimethyl phthalate, present at 100 mg/L, reached 93% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(8). In activated sludge die-away tests and in a semi-continuous activated sludge test >90% and >81.0% degradation, respectively, was achieved in 1 day(9). Dimethyl phthalate removal of >96 to >99% was observed at the Cedar Creek Wastewater Reclamation - Recharge Facilities, Nassau County, NY(10). Dimethyl phthalate, at a starting concentration of 10-100 mg/L, was biodegraded 90% in 3 days and 100% in 5 days, and had a half-life of 21 hours in acclimated activated sludge from a coke plant waste water treatment system(11). Aerobic degradation studies indicated primary degradation for the lower molecular weight phthalate esters (including dimethyl phthalate) occurred rapidly, typically exceeding 90% degradation within a week, even if unacclimated inocula were used(12).

12.3 Bioaccumulative potential

The mean BCF of dimethyl phthalate in sheepshead minnows was 5.4, after 24 hr(1). Bluegill sunfish showed a bioconcentration factor of 57(2) which may be elevated because only carbon-14 was measured in the experiment and metabolites may be included in the measurement of the parent compound(SRC). The depuration half-life was between 1 and 2 days(2). According to a classification scheme(3), these measured BCFs suggest that bioconcentration in aquatic organisms is low to moderate(SRC). The mean BCF of dimethyl phthalate in brown shrimp was 4.7, after 24 hr(1). Bioaccumulation factors of 3.1 and 6.3 were measured in shrimp (Peneaus aztecus) following 1 day of exposure(4). BCFs of 0.14-0.57 were reported for dimethyl phthalate in water spinach (Ipomoea aquatica) grown under different conditions on sludge from waste water treatment plants in China(5).

12.4 Mobility in soil

Dimethyl phthalate had a Koc of 55 in soil (89% sand, 11% silt/clay, 20% organic carbon) taken from Calumet, MI(1). Koc values ranging from 80 to 360 were calculated for dimethyl phthalate from its low carbon subsurface core sorption isotherms at different depths(2). Dimethyl phthalate had measured log Koc values of 1.88 to 1.89 in Typic Haplaquept type loamy, sandy soil(3). Dimethyl phthalate also had a reported Koc of 200(4) and log Koc value of 2.3(5). According to a classification scheme(6), these Koc values suggest that dimethyl phthalate is expected to have moderate to high mobility in soil(SRC). An average dimethyl phthalate removal of 79% was observed on a 14 m experimental overland flow slope(7). Relative to the average linear groundwater velocity, 18% retardation was calculated for dimethyl phthalate in a natural gradient tracer test using an unconfined sandy aquifer, assuming an organic carbon content of 0.05%(8). A mean sediment log Koc value of >5.2 was calculated from the

mean dimethyl phthalate concentration in water and suspended particulate matter from Lake Yssel, The Netherlands(9). Adsorption of dimethyl phthalate is enhanced in the presence of salt: at a dimethyl phthalate concentration of 700 ug/L, 0.9 ug/g was adsorbed on suspended particulates in seawater, 0.6 ug/g was adsorbed on suspended particulates in 50% sea water, and <0.2 ug/g was adsorbed on suspended particulates in distilled water(10).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Dimethyl phthalate	Dimethyl phthalate	131-11-3	205-011-6
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.

New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	July 15, 2019

Abbreviations and acronyms

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

References

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

Other Information

Other melting points: ≈0°C (commercial product).

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.