

## 1. Material Identification

**Product Name** : Dimethyl phthalate

**Catalog Number** : io-2256

**CAS Number** : 131-11-3

**Identified uses** : Laboratory chemicals, manufacture of chemical compounds

**Company** : IonZ

>> R&D Use only

## 2. Hazards Identification

### GHS Classification:

Flammable liquid ( category 2 )

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Specific target organ toxicity, single exposure (Category 1)

### Note

>> This chemical does not meet GHS hazard criteria for 95.7% (1976 of 2065) of all reports. Pictograms displayed are for 4.3% (89 of 2065) of reports that indicate hazard statements.

### GHS Hazard Statements

>> Not Classified

>> Reported as not meeting GHS hazard criteria by 1976 of 2065 companies (only 4.3% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

### Precautionary Statement Codes

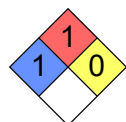
>> P273, and P501

### Pictogram(s)



>> Warning

### NFPA 704 Diamond



### NFPA Health Rating

>> 1 – Materials that, under emergency conditions, can cause significant irritation.

### NFPA Fire Rating

>> 1 – Materials that must be preheated before ignition can occur. Materials require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur.

### NFPA Instability Rating

>> 0 – Materials that in themselves are normally stable, even under fire conditions.

## Health Hazards:

- >> Symptoms unlikely from any exposure. (USCG, 1999)
- >> This chemical is combustible. (NTP, 1992)
- >> Combustible.

## 3. Composition/Information On Ingredients

**Chemical name** : Dimethyl phthalate  
**CAS Number** : 131-11-3  
**Molecular Formula** : C10H10O4  
**Molecular Weight** : 194.1800 g/mol

## 4. First Aid Measures

### First Aid:

- >> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
- >> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.
- >> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.
- >> INGESTION: DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)

### First Aid Measures

#### Inhalation First Aid

- >> Fresh air, rest.

#### Skin First Aid

- >> Rinse and then wash skin with water and soap.

#### Eye First Aid

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

#### Ingestion First Aid

- >> Rinse mouth.

## 5. Fire Fighting Measures

- >> Carbon oxides
- >> Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

- >> CAUTION: Fire involving Safety devices (UN3268) and Fire suppressant dispersing devices (UN3559) may have a delayed activation and a risk of hazardous projectiles. Extinguish the fire at a safe distance.
- >> SMALL FIRE: Dry chemical, CO2, water spray or regular foam.
- >> LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high-pressure water streams. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal.
- >> FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. (ERG, 2024)
- >> Use water spray, foam, powder, carbon dioxide.

## 6. Accidental Release Measures

### Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

- >> Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:
- >> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- >> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.
- >> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

### Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

- >> 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.

## 7. Handling And Storage

### Safe Storage:

- >> Store in an area without drain or sewer access.

### Storage Conditions:

- >> Keep container tightly closed in a dry and well-ventilated place.

## 8. Exposure Control/ Personal Protection

### REL-TWA (Time Weighted Average)

- >> 5 mg/m<sup>3</sup>
- >> TWA 5 mg/m<sup>3</sup>
- >> 5.0 [mg/m<sup>3</sup>]

### PEL-TWA (8-Hour Time Weighted Average)

- >> 5 mg/m<sup>3</sup>
- >> 5.0 [mg/m<sup>3</sup>]
- >> 5 mg/m

#### TLV-TWA (Time Weighted Average)

>> 5 mg/m<sup>3</sup> [2005]

#### Inhalation Risk:

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

#### Fire Prevention

>> NO open flames.

#### Inhalation Prevention

>> Use ventilation.

#### Skin Prevention

>> Protective gloves.

#### Eye Prevention

>> Wear safety spectacles.

#### Ingestion Prevention

>> Do not eat, drink, or smoke during work.

## 9. Physical And Chemical Properties

#### Molecular Weight:

>> 194.18

#### Exact Mass:

>> 194.05790880

#### Physical Description:

>> Dimethyl phthalate appears as a water-white liquid without significant odor. Denser than water and insoluble in water. Hence sinks in water. Flash point 300 °F. Eye contact may produce severe irritation and direct skin contact may produce mild irritation. Used in the manufacture of a variety of products including plastics, insect repellents, safety glass, and lacquer coatings.

>> COLOURLESS OILY LIQUID.

#### Color/Form:

>> Pale yellow

#### Odor:

>> Slight aromatic odor

#### Boiling Point:

>> 542.7 °F at 760 mmHg (NTP, 1992)

>> 284 °C

#### Melting Point:

>> 32 °F (NTP, 1992)

>> 5.5 °C

#### Flash Point:

>> 295 °F (NTP, 1992)

>> 146 °C c.c.

#### Solubility:

>> less than 1 mg/mL at 68 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.43

#### Density:

>> 1.1905 at 68 °F (USCG, 1999) – Denser than water; will sink

>> Relative density (water = 1): 1.19

#### **Vapor Density:**

>> 6.69 (NTP, 1992) – Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 6.69

#### **Vapor Pressure:**

>> 1 mmHg at 212.5 °F ; 5 mmHg at 269.2 °F; 10 mmHg at 297.7 °F (NTP, 1992)

>> Vapor pressure, Pa at 20 °C: 0.8

#### **LogP:**

>> log Kow = 1.60

>> 1.47/2.12

#### **Stability/Shelf Life:**

>> Stable under recommended storage conditions.

#### **Autoignition Temperature:**

>> 915 °F (USCG, 1999)

>> 490 °C

#### **Decomposition:**

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

#### **Viscosity:**

>> 17.2 cP at 25 °C

#### **Heat of Combustion:**

>> -119.7 kg-cal/mole

#### **Heat of Vaporization:**

>> 93.1 g-cal/g

#### **Ionization Potential:**

>> 9.64 eV

#### **Ionization Efficiency:**

The ratio of the number of ions formed to the number of electrons or photons used in an ionization process.

#### **Ionization mode**

>> Positive

#### **logIE**

>> 2.96

#### **pH**

>> 2.7

#### **Instrument**

>> Agilent XCT

#### **Ion source**

>> Electrospray ionization

#### **Additive**

>> formic acid (5.3nM)

#### **Organic modifier**

>> MeCN (80%)

#### **Reference**

>> DOI:10.1021/ac902856t

#### **Refractive Index:**

>> Index of refraction: 1.5168 at 20 °C/D

#### **Relative Evaporation Rate:**

The rate at which a material will vaporize (evaporate, change from liquid to vapor), compared to the rate of vaporization of a specific known material.

>> Almost zero (methyl acetate = 1)

## 10. Stability And Reactivity

>> Insoluble in water.

## 11. Toxicological Information

### Toxicity Summary:

>> IDENTIFICATION AND USE: Dimethyl phthalate (DMP) is a pale yellow, or colorless, oily liquid (solid below 42 °F) with slight aromatic odor. It is used as plasticizer for nitrocellulose and cellulose acetate, resins, and in solid rocket propellants; lacquers; plastics; rubber; coating agents; safety glass; and molding powders. Formerly it was used as a repellent for flies on horses and cows, and as a leech repellent. DMP is not registered for current use in the U.S., but approved pesticide uses may change periodically and so federal, state and local authorities must be consulted for currently approved uses. HUMAN EXPOSURE AND TOXICITY: In man, dimethyl phthalate has caused skin irritation reactions and skin sensitization was induced in one individual. Repeated inhalation of the vapor irritated the nose and upper respiratory tract. If swallowed, DMP may cause irritation of the stomach, dizziness, and unconsciousness. In one fatal case of suicidal ingestion of a mixture containing dimethyl phthalate and ketone peroxides, the principal toxic symptoms were marked esophagitis, gastritis, and hemorrhage. Mortality of human sperm in vitro was reduced by 25% in cultures containing 0.4 mM DMP for 18 hr. Chromosomal damage was not induced in human white blood cells. DMP is not a known human carcinogen. ANIMAL STUDIES: DMP caused irritation and ulceration when repeatedly applied to mouse skin, but in rabbits it produced only weak skin and eye effects. Acute oral and dermal toxicity in a number of animal species was low. Oral studies in rats indicated repeated exposure may produce kidney damage and mild effects on the liver. Kidney and liver injury was seen in rabbits on repeated skin contact with DMP. By inhalation, severe mucous membrane irritation was observed in cats exposed at 250 ppm, and at 1250 ppm, animals appeared depressed. In mice inhaling 0.7-1.8 mg/cu m DMP (4 hr/day) for 4 mo, changes in the frequency of respiration, function of the nervous system, liver, and kidneys, and blood morphology were observed. Testosterone in testis and in serum and dihydrotestosterone in serum were significantly decreased in rats fed diets containing 2% dimethylphthalate for 1 week. The offspring of mice and rats treated orally or dermally were normal, whereas fetal deaths and malformations were seen when pregnant rats were given intraperitoneal injections. DMP did not enhance the tumor yield of an established skin carcinogen when applied repeatedly to the skin of mice. Mutagenic activity was observed in *Salmonella typhimurium* (Ames test). There was apparently some evidence of chromosome damage in the liver cells of rats given repeated skin application of DMP but not in the bone marrow cells of mice treated by single injection. In cultured Chinese hamster ovary cells, DMP induced sister-chromatid exchanges in only the presence of metabolic activation. DMP did not induce chromosomal aberrations, with or without metabolic activation, in cultured Chinese hamster ovary cells. Therefore, DMP is mutagenic only in certain in vitro studies after metabolism. This is probably due to the formation of a reactive species such as formaldehyde. Since DMP is not mutagenic in vivo, any reactive metabolites appear to be quickly detoxified. ECOTOXICITY STUDIES: 100 ppm DMP were acutely toxic to *Palaemonetes pugio* (grass shrimp) larvae. DMP at a concn of 100 ppm significantly increased the duration of larval development to the first postlarval stage. Bioavailability of phthalate congeners, including/ dimethyl phthalate to earthworms (*Eisenia fetida*) was studied when earthworms were exposed to two artificially contaminated agricultural and forest soils. DMP was not detected in earthworms.

### EPA Provisional Peer-Reviewed Toxicity Values:

This section provides the EPA Provisional Peer-Reviewed Toxicity Values (PPRTVs) and links of related assessment documents.

### Chemical Substance

>> Dimethylphthalate

### PPRTV Assessment

>> PDF Document

### Weight-Of-Evidence (WOE)

>> See the IRIS entry for Dimethylphthalate

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**Last Revision**

>> 2007

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**USGS Health-Based Screening Levels for Evaluating Water-Quality:**

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

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**Chemical**

>> Dimethyl phthalate

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**Reference**

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

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**Evidence for Carcinogenicity:**

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> 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/

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**Carcinogen Classification:**

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

>> No indication of carcinogenicity to humans (not listed by IARC).

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**Health Effects:**

>> Phthalate esters are endocrine disruptors. Animal studies have shown that they disrupt reproductive development and can cause a number of malformations in affected young, such as reduced anogenital distance (AGD), cryptorchidism, hypospadias, and reduced fertility. The combination of effects associated with phthalates is called 'phthalate syndrome'. (A2883)

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**Exposure Routes:**

>> inhalation, ingestion, skin and/or eye contact

>> irritation eyes, upper respiratory system; stomach pain

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**Target Organs:**

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> Eyes, respiratory system, gastrointestinal tract

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**Adverse Effects:**

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Reproductive Toxin – A chemical that is toxic to the reproductive system, including defects in the progeny and injury to male or female reproductive function. Reproductive toxicity includes developmental effects. See Guidelines for Reproductive Toxicity Risk Assessment.

>> Skin Sensitizer – An agent that can induce an allergic reaction in the skin.

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**Toxicity Data:**

>> LCLo (cats) = 9,630 mg/m3/6H

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**Interactions:**

>> ... Mice were epicutaneously sensitized with fluorescein isothiocyanate (FITC) dissolved in acetone containing a phthalate ester. Sensitization was evaluated as ear swelling after a challenge with FITC. Draining lymph node cells obtained 24 hr after skin sensitization were examined for FITC fluorescence by means of flow cytometry. FITC-positive cells were characterized with anti-CD11c and anti-CD11b by three-color flow cytometry. ... When mice were sensitized with FITC in acetone containing di-butyl phthalate (DBP) or di-n-propyl phthalate (DPP), strong enhancement of the ear-swelling response was observed. Di-methyl phthalate (DMP) and di-ethyl phthalate (DEP) were less effective but produced some enhancement. ...

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**Antidote and Emergency Treatment:**

>> 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/

#### Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ In 144 subjects with suspected occupational dermatoses to plastic or glue allergens, three subjects (2.1%) experienced irritation after patch testing with 5.0% dimethyl phthalate. None of the patients had allergic reactions.

#### Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ When undiluted, DMP was instilled into the eyes of rabbits, no observable effects were noted after 48 hours.

#### Non-Human Toxicity Values:

>> LD50 Rat oral 6800 mg/kg

#### National Toxicology Program Studies:

Reports from the National Toxicology Program, an interagency program supported by three government agencies (NIH, FDA, and CDC) within the Department of Health and Human Services. This program plays a critical role in generating, interpreting, and sharing toxicological information about chemicals of public health concerns.

>> Groups of 50 male /Swiss (CD-1)/ mice were dosed dermally with diethylphthalate or dimethylphthalate /for 1 yr/ to study their effect as initiators and promoters. Diethylphthalate and dimethylphthalate were tested as initiators with and without the known skin tumor promoter 12-O-tetradecanoylphorbol-13-acetate (TPA). Diethyl phthalate and dimethylphthalate were tested as promoters with and without the known skin tumor initiator 7,12-dimethylbenzanthracene (DMBA). Comparative control groups used during the study of diethylphthalate and dimethylphthalate included: vehicle control (acetone/acetone); initiation/promotion control (DMBA/TPA); initiator control (DMBA/acetone); and promoter control (acetone/TPA). Based on the incidence of skin neoplasms diagnosed histologically and the multiplicity of skin neoplasms, there was no suggestion that either diethylphthalate or dimethylphthalate was able to initiate skin carcinogenesis when chronically promoted by TPA. Further, there was no evidence that either diethylphthalate or dimethylphthalate was able to promote skin carcinogenesis in skin previously initiated with DMBA. High incidences of both squamous cell papillomas and squamous cell carcinomas occurred among the initiation/promotion control animals initiated with DMBA and promoted with TPA. All TPA-dosed groups had significantly greater incidences of dermal acanthosis, ulceration, exudation, and hyperkeratosis than controls.

#### TSCA Test Submissions:

Under the Toxic Substances Control Act (TSCA), EPA has broad authority to issue regulations designed to require manufacturers (including importers) or processors to test chemical substances and mixtures for health and environmental effects. This section provides information on test reports submitted for this chemical under TSCA.

>> The toxicity of dimethyl phthalate was evaluated in the mouse lymphoma L5178Y cell line in the presence and absence of rat liver S9 metabolic activation. All cultures were treated in duplicate with concentrations of 9.77, 19.50, 39.10, 78.10, 156.00, 313.00, 625.00, 1250.00, 2500.00 or 5000.00 nL/mL, and growth was determined at 24 and 48 hours after initiation of the treatment. Under nonactivated conditions, dimethyl phthalate was soluble up to 5000 nL/mL, and treatments at 625 nL/mL were weakly toxic (69.9% of average solvent (acetone) control suspension growth). Treatments at 1250 nL/mL were lethal to nonactivated cultures. Assays with metabolic activation were soluble up to 5000 nL/mL, and treatments at 625 nL/mL were weakly toxic (75.5% average relative suspension growth). One treatment at 1250 nL/mL was lethal and a duplicate treatment at the same concentration was highly toxic (22.9% average relative suspension growth).

## 12. Ecological Information

#### ICSC Environmental Data:

>> The substance is harmful to aquatic organisms.

#### Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.



- >> SEDIMENT: Dimethyl phthalate was detected, not quantified, at 5 of 12 sites in Chester River, downstream from plasticizer manufacturer, near where it joins Chesapeake Bay(1). A trace of dimethyl phthalate was detected in a tributary of Delaware River (Raccoon Creek) at Bridgeport, NJ in surficial bed material(2). Sediment samples from the Inner Harbor Navigation Canal and the Chef Menteur Pass, Lake Pontchartrain, LA contained 0.2 and 2.0 ng/g dry weight dimethyl phthalate, respectively(3). Dimethyl phthalate was detected in 0.6% of 521 sites samples Aug 1992 to Sept 1995 in 20 major river basins across the US with a maximum concentration of 120 ug/kg dry weight(4). Dimethyl phthalate was found in surface sediment samples at 4 sites in False Creek in Vancouver, Canada(5). A sediment sample collected from the River Mersey, UK contained 140 ng/g dimethyl phthalate(6). Dimethyl phthalate was detected in surface sediment samples collected from Speke and Runcorn in the River Mersey estuary, UK in Oct 1986 at 0.130 and 0.150 ug/g dry weight, respectively(7). Sediment samples collected from Klang River water, Malaysia between Jan 1992 to Feb 1993 contained dimethyl phthalate at average concentrations ranging from not detected to 10.1 ng/g dry weight(8). Dimethyl phthalate was not found in sediment samples taken from 12 sites in 2000 from Taihu Lake China(9). Dimethyl phthalate was detected in sediment in 7 of 7 sites located in the German Bight area(10).

### Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

- >> A mean dimethyl phthalate concentration of 8.4 ng/g wet weight was detected in oysters collected from the mouth of the Inner Harbor Navigation Canal, Lake Pontchartrain, LA in May to June 1980; clams collected from the mouth of the Rigolets, Lake Pontchartrain, LA during the same time period contained a mean dimethyl phthalate concentration of 44 ng/g wet weight(1). Dimethyl phthalate was found in *Mytilus edulis* (blue mussels) taken near Holbek, Denmark on Sept 5 and Oct 1, 1991 at 4.5 and 3.1% of volatile components and not detected Nov 5, 1991(2). Three seaperch (*Embiotoca lateralis*) taken from False Creek, Vancouver, Canada contained 0.1-1.0 ppb of dimethyl phthalate(3). Dimethyl phthalate was analyzed for but not found in edible fish from Wisconsin lakes and rivers(4), and 13 tributaries and Grand Traverse Bay, Lake Michigan(5). *Machrobranchium* sp, *Cynoscion arenarius*, and *Callinectes* sp taken from Blanco River, Veracruz, Mexico contained dimethyl phthalate at 382.0, 4.03, and 488.77 ug/g of extractable lipid, respectively(6).

### Average Daily Intake:

The average amount of the compound taken into the body through eating, drinking, or breathing.

- >> The total average daily intake of dimethyl phthalate was 79.1 ng/kg body weight/day based on food, water, and indoor and outdoor air concentrations reported for Paris, France; component daily intakes were 0.185, 76 and 2.92 ng/kg body weight/day for water, food and air, respectively(1).

## 13. Disposal Considerations

### Spillage Disposal

- >> 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.

### Disposal Methods

- >> Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number U102, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.
- >> /Small quantities/ absorb with paper, then burn the paper in a suitable location away from other combustible materials.
- >> A good candidate for rotary kiln incineration at a temperature range of 820 to 1,600 °C and residence times of seconds for liquids and gases, and hours for solids. A good candidate for liquid injection incineration at a temperature range of 650 to 1,600 °C and a residence time of 0.1 to 2 seconds. A good candidate for fluidized bed incineration at a temperature range of 450 to 980 °C and residence times of seconds for liquids and gases, and longer for solids.
- >> Chemical Treatability of Dimethyl Phthalate; Concentration Process: Resin Adsorption; Chemical Classification: Phthalates; Scale of Study: Batch flow, Laboratory scale; Type of Wastewater Used: Pure compound (one solute in a solvent); Results of Study: 100% reduction; 62% desorbed from resin by elutriation with solvent. (Amberlite XAD-2 used. Solvents included pentane-acetone, diethyl ether, methylene chloride-acetone, chloroform-acetone).
- >> For more Disposal Methods (Complete) data for DIMETHYL PHTHALATE (9 total), please visit the HSDB record page.

## 14. Transport Information

DOT

Dimethyl phthalate

Reportable Quantity of 5000 lb or 2270 kg

#### IATA

Dimethyl phthalate

## 15. Regulatory Information

### Clean Water Act Requirements:

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under CWA, the U.S. Environmental Protection Agency (EPA) developed the Toxic Pollutant List (40 CFR Part 401.15) and the Priority Pollutant List (40 CFR Part 423, Appendix A). These lists are to be used by EPA and States to develop the Effluent Guidelines regulations and ensure water quality criteria and standards.

- >> For the protection of human health from the toxic properties of dimethyl phthalate ingested through water and contaminated aquatic organisms, the ambient water criterion is determined to be 313 mg/l.

### TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

- >> Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. 1,2-Benzenedicarboxylic acid, dimethyl ester is included on this list. Effective date 10/04/82; Sunset date 10/04/92.

### Regulatory Information

#### The Australian Inventory of Industrial Chemicals

- >> Chemical: 1,2-Benzenedicarboxylic acid, dimethyl ester
- >> Specific Information Requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.

#### REACH Registered Substance

- >> Status: Active Update: 06-04-2023 <https://echa.europa.eu/registration-dossier/-/registered-dossier/14997>
- >> Status: No longer Valid Update: 18-12-2015 <https://echa.europa.eu/registration-dossier/-/registered-dossier/16607>

#### New Zealand EPA Inventory of Chemical Status

- >> Dimethylphthalate: Does not have an individual approval but may be used under an appropriate group standard

## 16. Other Information

### Other Safety Information

#### Chemical Assessment

- >> IMAP assessments – 1,2-Benzenedicarboxylic acid, dimethyl ester: Human health tier I assessment
- >> PEC / SN / Other assessments – Dimethyl phthalate (DMP): Health

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. lonz is not responsible for any damages resulting from handling or contact with the product incorrectly."