



SAFETY DATA SHEET

REVISE DATE: 06/02/2015

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT: DOTP
SYNONYMS: Bis(2-ethylhexyl) terephthalate
CAS#: 6422-86-2
EC#: 229-176-9
REACH Registration No: 01-2119446265-39-0006
OSHA Status: Not Hazardous
SUPPLIER: Everchem Specialty Chemicals
1400 N. Providence Road
Media, PA 19063, USA

GENERAL INFORMATION: 908-523-9800
EMERGENCY INFORMATION:
Canada Call CANUTEC (collect) (613)996-6666
U.S.A. Call CHEMTREC (800)424-9300

SECTION 2: HAZARDS

Classification according to Regulation (EC) no 1272/2008: Substance is not classified as dangerous.

Classification according to Directive 67/548/EEC: Substance is not classified as dangerous.

Hazard pictograms/Signal word: Not applicable.

Other hazards: The substance does not meet the criteria for PBT or vPvB substance.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

Product identifier type in accordance with Article 18(2) of Regulation (EC) NO 1272/2008	Identified number	Identification name	Weight % Content (or range)	EC Number
CAS number	6422-86-2	Bis(2-ethylhexyl) terephthalate	98.5%	229-176-9
CAS number	63468-13-3	2-ethylhexyl methyl terephthalate	< 2.0%	264-249-9

SECTION 4: FIRST AID

Inhalation: If symptoms develop, move victim away from exposure and into fresh air. Get medical attention if symptoms persist.
Eyes: Flush eyes with copious quantities of water while holding open. If easy to do, remove contact lenses. Consult physician if symptoms persist.

Skin: Wash exposed area with soap and water. If irritation persists, consult a physician.

Ingestion: Seek medical advice.

Most important symptoms and effects, both Acute and delayed: No data available.

SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media: Water spray, dry chemical, carbon dioxide, foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No data available.

Special hazards arising from the substance or mixture: Material may accumulate a static charge which could act as an ignition source. Hazardous Combustion products: Carbon dioxide, carbon monoxide.

Advice for firefighters: Wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

For non-emergency personnel: Avoid inhalation and contact with skin, eyes and clothing. Wear appropriate personal protective equipment as specified in Section 8. Ensure adequate ventilation.

For emergency responders: No data available.

Environmental precautions: Avoid dispersal of spilled material and contact with soil, ground and surface water, drains and sewers.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For Larger spills; Flush spill area with water spray. Prevent runoff from entering drains, sewers or streams. Dike for later disposal. Reclaim or dispose of in accordance with local, state, and federal regulations.

SECTION 7: HANDLING & STORAGE

Precaution for safe handling: No special precautionary health measures should be needed under anticipated conditions of use.

Conditions for safe storage, including any incompatibilities: Keep container closed. Keep from contact with oxidizing materials.

SECTION 8: PROTECTIVE EQUIPMENT / EXPOSURE CONTROL

Control parameters: Community workplace exposure limits were not established

Exposure pattern	DNEL	
	Workers	General Population
Long-term – inhalation, systemic	23.2 mg/m ³	6.86 mg/m ³
Long-term – dermal, systemic	6.58 mg/kg bwt/day	3.95 mg/kg/day
Long-term – oral, systemic	Not relevant	3.95 mg/kg/day

PNECs:

PNEC freshwater	0.08 mg/l
PNEC marine-water	0.008 mg/l
PNEC intermittent	0.014 mg/l
PNEC freshwater sediment	1.8 mg/kg wet wt
PNEC marine sediment	0.18 mg/kg wet wt
PNEC soil	13.2 mg/kg wet wt
PNEC STP microbes	1.0 mg/l
PNEC oral	52.7 mg/kg food

Exposure Controls:

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances: such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.

Respiratory protection: If engineering controls do not maintain airborne concentration below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air purifying respirator with an appropriate government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Thermal hazards: The substance does not represent a thermal hazard, thus special consideration is not required.

Eye protection: It is good industrial hygiene practice minimize eye contact.

Skin and body Protection: It is a good industrial hygiene practice to minimize skin contact.

Environmental exposure controls: Avoid dispersal of spilled material and contact with soil, ground and surface water drains and sewers.

Decontamination facilities: Eye bath, washing facilities (sinks/showers)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid (at room temperature)

Odor: Mild odor

Odor threshold: No data available

pH: No data available

Melting point/freezing point: $\leq -67.2^{\circ}\text{C}$ (at 1 atm)

Initial boiling point and boiling range: $375\pm 5^{\circ}\text{C}$ (extrapolated to 101.325 Pa)

Flash point: $212\pm 2^{\circ}\text{C}$ (closed cup at 101.325 kPa)

Evaporation rate: No data available

Flammability (solid, gas): In accordance with REACH Annex XI, the analysis need not be conducted as, concluded from structural analysis, and experience in handling and use, material is not pyrophoric nor is it flammable upon contact with water

Upper/lower flammability or explosive limit: No data available

Vapor pressure: 0.001 Ps (at 25°C)

Vapor density: No data available.

Relative density: $0.98 + -0.0001 \text{ g/cm}^3$ (density at 20°C)

Solubility(ies): water solubility: 0.4 ug/L

Partition coefficient: n-octanol/water: $\text{Log Pow} = 5.72$ (method equivalent to OECD 107 guideline)

Auto-ignition temperature: $387 \pm 5^{\circ}\text{C}$ (at 98 kPa)

Decomposition temperature: No data available

Viscosity: 65.8 mPa s (dynamic) (at 25°C)

Explosive properties: No explosiveness potential (no functional groups present with explosive properties per Annex VII 7.11)

Oxidizing properties: None (the material is incapable of reacting exothermally with combustibles)

Other information:

Surface information: $32.7 \pm \text{mN/m}$ (at 22°C)

SECTION 10: STABILITY / REACTIVITY

Stability: This product is stable under normal conditions.

Incompatibility: Material reacts with strong oxidizing agents

Conditions to avoid: No data available

Hazardous Polymerization: Hazardous polymerization will not occur

SECTION 11: TOXICITY

Acute toxicity: The substance is not classified for acute toxicity according to Regulation (EC) No 1272/2008. No significant clinical signs, body weight changes or gross or microscopic observations to indicate systemic toxicity were observed by any route of exposure.

Acute toxicity: oral

Method: TSCA FHSA Regulations (1979): 16 CFR Part 1500.40 (Hazardous Substances and Articles, Administration and Enforcement Regulations)

Species: Rat (CD(SD)BR VAF/Plus) male/female

Routes of administration: oral: gavage

Results: LD50: $> 5000 \text{ mg/kg bw}$ (male/female)

Acute toxicity: dermal

Method: Internal Eastman Kodak method (Method is an in vivo study using three guinea pigs. Following depilation of the abdomen of each animal, a single dose of the test substance is applied under an occlusive wrap for 24 hours. Animals are observed following removal of the cuff, and on Days 7 and 14. In addition to observations for mortality, dermal reactions and weight changes were also recorded.

Species: Guinea pig

Routes of administration: coverage: occlusive

Results: LD50: > 20 mL/kg bw

Skin corrosion/irritation:

The substance is not classified for skin corrosion/irritation according to Regulation (EC) No 1272/2008

Human data

Method: The test substance was evaluated in 18 test subjects. Subjects were patched dermally on the back under semi-occlusive patches with 0.2 mL of five dilutions of the test substance in acetone. Subjects were patched three times over a period of five days (Days 1, 3, and 5). The subjects removed the patches after 24 hours, and scoring of patch sites for irritation was made prior to applications on Days 3 and 5 and on Day 8. Dermal reactions, if any, were assessed to determine the primary irritation potential of the test substance. The clinical investigation was reviewed by and Institutional Review Board in accordance with CFR, Title 21, Parts 50 and 56.

Coverage: semioclusive

Species: Human

Results: Not irritating

Animal data

Method: OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Coverage: Semioclusive (Fur was clipped from the dorsal and trunk areas the day before application)

Species: Rabbit (New Zealand White)

Results: Not classified (No erythema was observed at any time at any of the treated sites. No edema was observed at any time at any of the treated sites.)

Serious eye damage/irritation:

The substance is not classified for eye damage/irritation according to Regulation (EC) No 1272/2008.

Method: OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Species: Rabbit (New Zealand White)

Results: Minimally irritating

Respiratory irritation:

The substance is not classified for respiratory irritation according to Regulation (EC) No 1272/2008.

There were no clinical signs indicative of respiratory tract irritation in rats following repeated exposures to the highest airborne concentrations of di (2-ethylhexyl) terephthalate that could be generated by heating the test material to 95°C. Following exposure for 5 days/weeks, 6 hours/days for 10 days over a 14-day period, there was no gross or microscopic evidence of irritation in the lungs or trachea. In addition, di (2-ethylhexyl) terephthalate is not classified as an eye or skin irritant.

Skin Sensitization:

The substance is not classified for skin sensitization according to Regulation (EC) No 1272/2008.

Human data:

Method: HRIPT (modified Draize procedure)

Species: Human male/female

Routes of administration: Induction: epicutaneous, semioclusive; Challenge: epicutaneous, open

Results: Not sensitizing

Respiratory sensitization:

No information available on respiratory sensitization.

Germ cell mutagenicity:

The substance is not classified for germ cell mutagenicity according to Regulation (EC) No 1272/2008.

Bacterial reverse mutation assay (e.g. Amestest) (gene mutation)

Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Species/strain: S. typhimurium TA1535, TA1537, TA98 and TA100 (met. act.: with and without), S. typhimurium TA 1538 (met. act.: with and without)

Doses: Screening Study: 10 doses from 0.32 to 10000 µg/plate

Mutagenicity Study: 1.0, 10, 100, 1000, and 10000 µg/plate

Results: negative for S. typhimurium TA 1535, TA 1537, TA 98, and TA 100 (all strains/cell types tested); met. act.: with and without; cytotoxicity : No cytotoxicity was observed at concentrations up to 10,000 micrograms/plate.

Negative for S. typhimurium TA 1538 (all strains/cell types tested); met. act.: with and without; cytotoxicity: No cytotoxicity was observed at concentrations up to 10,000 micrograms/plate.

Mammalian cell gene mutation assay (gene mutation)

Method: OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Species/strain: Chinese hamster Ovary (CHO) (met. act.: with and without)

Doses: Preliminary cytotoxicity assay 0, 0.001, 0.005, 0.01, 0.02, 0.039, 0.078, 0.156, 0.313, 0.625, 1.25, 2.5, 5, 10, 20 nL/ml

Results: Negative for Chinese Hamster Ovary (CHO) (all strains/ cell types tested); met. act.: with and without; cytotoxicity: yes

Bacterial forward mutation assay (gene mutation)

Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Species/strain: S. typhimurium TA 1535, TA 1537, TA 98 and TA 100 (met. act.: with and without), S. typhimurium TA 1538 (met. act.: with and without)

Doses: Initial toxicity Test: 0, 0.3164, 1.0, 3.164, 10.0, 31.64, 100.0, 316.4, 1000.0, 3164.0, and 10000.0 µg/plate

Mutagenicity Test: 0, 1.0, 10.0, 100.0, 1000.0, and 10000.0 µg/plate

Results: negative for *S. typhimurium* TA 1535, TA 1537, TA 98, and TA 100, (all strains/cell types tested); met. act/: with and without; cytotoxicity: no

Negative for *S. typhimurium* TA 1538 (all strains/cell types tested); met. act.: with and without; cytotoxicity: no

In vitro mammalian chromosome aberration test (chromosome aberration)

Method: OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Species/strain: Chinese hamster Ovary (CHO) (met. act.: with and without)

Doses: Preliminary range-finding study: 0, 100, 333, 1000 nL/mL

Chromosome Aberration study: 0, 700, 800, 900, and 1000 nL/mL

Results: negative for Chinese hamster Ovary (CHO) (all strains/cell types tested); met. act.: with and without; cytotoxicity: No cytotoxicity was observed at concentrations up to 1000 nL/mL

Carcinogenicity:

The substance is not classified for carcinogenicity according to Regulation (EC) No 1272/2008

Method: EPA OPPTS 870.4200 (Carcinogenicity)

Species/strain: Rat (Fischer 344) male/female

Routes of Administration: Oral: feed

Doses:

1500 ppm (Based on feed consumption and analytical concentration, equivalent to 79 and 102 mg/kg/day in males and females, respectively)

6000 ppm (Based on feed consumption and analytical concentration, equivalent to 324 and 418 mg/kg/day in males and females, respectively)

1200 ppm (Based on feed consumption and analytical concentration, equivalent to 666 and 901 mg/kg/day in males and females, respectively)

Exposure: 104 weeks (ad libitum in the diet for 104 weeks)

Results:

NOEL (carcinogenicity): 1200 ppm (analytical) (male/female) (There was no effect on tumor incidence caused by the test substance at any dose level tested.)

NOEL (toxicity): 1500 ppm (analytical) (male/female) (Toxicity was limited to low weight gain and food conversion efficiency in male and females receiving 6000 or 12000 ppm and ocular changes in females receiving 6000 and 12000 ppm.)

NOEL (testicular toxicity): 1200 ppm (analytical) (male) (No adverse changes were observed in the testes during the study.)

NOEL (liver toxicity): 1200 ppm (analytical) (male/female) (There were increased liver weights in the study but no adverse histopathological findings and the increased liver weight was considered only an adaptive response to the test substance.

Neoplastic effects observed in any test group; no effects.

Reproductive toxicity:

The substance is not classified for reproductive toxicity according to Regulation (EC) No 1272/2008.

Effects on fertility

Method: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), EPA OPPTS 870.3800 (Reproduction and Fertility Effects)

Species: Rat (Sprague-Dawley) male/female

Routes of administration: oral: feed

Doses: 10,000, 6,000, 3,000 or 0 ppm

Exposure: All F0 animals were treated for a minimum of 70 days prior to mating until necropsy (approximately 16-18 weeks total). This process was repeated for the chosen offspring of the F0 generation (F1 animals). (Daily (ad libitum))

Results:

NOAEL (for reproductive toxicity): 10000 ppm (male/female) (No reproductive toxicity was observed in this study; gonadal function, estrous cyclicity, mating behavior, conception, gestation and parturition, and spermatogenic endpoints, were unaffected by test substance administration.)

NOAEL (for parent toxicity): 3000 ppm (male/female) (The highest concentration, 10000 ppm, resulted in mortality in both the F0 and the F1 parental animals. Since spontaneous deaths are rare in the rat, it was assumed that the mortality was test substance-related. Mean weekly body weights were reduced for both males and females in the 10000 ppm group throughout the F1 generation and for F1 males in the 6000 ppm group beginning on study week 23. Increase in mean absolute (F0 females) and in mean relative (to final body weight) liver weights (F0 and F1 females) were observed in the 6000 and 10000 ppm groups.)

NOAEL (for neonatal toxicity): 3000 ppm (male/female) (Mean F1 male and female offspring weights and weight gains in the 6000 and 10000 ppm groups were reduced throughout the preweaning period. In the F2 offspring, neonatal toxicity was also exhibited by reduced offspring weight gains in the 6000 and 10000 ppm groups during lactation.)

Developmental toxicity:

Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study), EPA OPPTS 870.3700 (Prenatal Developmental Toxicity Study)

Species: Rat (Sprague-Dawley)

Routes of administration: oral: feed

Doses: Concentrations of 3000, 6000, and 10000, ppm (0.3, 0.6, and 1.0% respectively) test substance in the diet of produced mean dose levels of 226, 458, and 747 mg/kg/day for female rats treated during gestation.

Exposure: Days 0 to 20 of gestation (Daily(ad libitum))

Results:

NOAEL (maternal toxicity): 6000 ppm (Test substance related effects included reductions in mean maternal body weight gain on gestation days 16-20, which subsequently slightly reduced net body weights, and net body weight gains in the 10000 ppm group. Also, increased liver weights were observed at necropsy in 10000 ppm females (18.16 g vs. 16.76 g in the control).)

NOAEL (teratogenicity): 10000 ppm (Intrauterine growth and survival and fetal malformations were unaffected by test substance administration at any dose level. There was an increased occurrence of rudimentary 14th ribs observed in the 10000 ppm group; this was considered test substance-related, but was not considered an adverse effect. No other test substance-related developmental variations were observed at any dose level.)

Developmental toxicity

Method: Redbook 2000 Guideline IV.C.9.b, EPA OPPTS 870.3700 (Prenatal Developmental Toxicity Study), OECD Guideline 414 (Prenatal Developmental Toxicity Study), ICH Guideline Section 4.1.3

Species: Mouse (CD-1)

Routes of administration: oral: feed

Doses: 1000, 3000, 7000 ppm (197, 592 and 1382 mg/kg/day) (actual ingested)

Exposure: Gestation Days 0-18 (continuous)

Results:

NOEL (maternal toxicity): 1000 ppm (Maternal toxicity was evidenced by higher mean absolute liver weights at the 3000 and 7000 ppm dosage levels.)

NOEL (teratogenicity): 7000 ppm (Intrauterine growth and survival were unaffected at all dosage levels.)

STOT-repeated exposure:

The substance is not classified for repeated dose toxicity according to Regulation (EC) No 1272/2008

Repeated dose toxicity: oral

The substance is not classified for repeated dose toxicity according to Regulation (EC) No 1272/2008

Method: EPA guideline 799.9310 TSCA “90-Day Oral Toxicity Study in Rodents “

Species: Rat (Sprague-Dawley) male/female

Doses: 0.1% (54 mg/kg bw/day male and 61 mg/kg bw/day female) nominal in diet

0.5% (277 mg/kg bw/day male and 309 mg/kg bw/day female) nominal in diet

1.0% (561 mg/kg bw/day male and 617 mg/kg bw/day female) nominal in diet

Exposure: Approximately 90 days (ad libitum)

Results:

NOEL: 277 mg/kg/day (male) (Alterations that were observed following consumption of the test substance included minor effects on red blood cell formation, and enlargement of the liver (11.2% increase relative to body weight) at a dose concentration of 1.0% (equivalent to 561 mg/kg/day).)

NOEL: 309 mg/kg/day (female) (Alterations that were observed following consumption of the test substance included minor effects on red blood cell formation, and enlargement of the liver (8.9% increase relative to body weight) at a dose concentration of 1.0% (equivalent to 617 mg/kg bw/day).)

Repeated dose toxicity: inhalation

Method: No guideline followed – Five male albino rats per group were exposed to 0 or a mean of 0.0718 mg/L of di(2-ethylhexyl) terephthalate by inhalation 5 days/week 6 hours/day for 10 consecutive weekdays over a 14-day period. Three days after the last inhalation exposure, blood was taken for hematology and clinical chemistry evaluations, animals were weighed and euthanized, a gross necropsy was performed, organs were weighed, and a microscopic analysis was performed.

Species: Rat (Sprague-Dawley) male

Routes of administration: Inhalation (whole body)

Exposure: 6 hours per day (5 days/week over a 14-day period)

Results: NOEL: 0.0718 mg/L air (male) (No compound related effects were found after that inhalation exposure to di(2-ethylhexyl) terephthalate (equating to 813 – 1144 mg/kg bw/day) for 9 exposures over an 11 day period. There were no gross or microscopic examinations conducted in this study.

Aspiration Hazard: The substance is not classified for aspiration hazard according to Regulation (EC) NO 1272/2008.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: The substance is not classified as hazardous to the aquatic environment according to Regulations (EC) No 1272/2008

Short-term toxicity to fish: LC₅₀ (96 h) for freshwater fish (*Pimephales promelas*), static: > 984 mg/L test mat. (nominal)

LC₅₀ (7 d) for freshwater fish (*Salmo gairdneri*), flow-through: > 0.25 mg/L test mat. (arithm. mean)

Long-term toxicity to fish: NOEC (60 d) for freshwater fish (*Oncorhynchus mykiss* (reported as *Salmo gairdneri*)), embryo and sac-fry stage: (sub)lethal effects, flow-through: ≥ 0.28 mg/L test mat. (meas. (arithm. Mean)) based on: weight

NOEC (60 d) for freshwater fish (*Oncorhynchus mykiss* (reported as *Salmo gairdneri*)), embryo and sac-fry stage: (sub)lethal effects, flow-through: ≥ 0.28 mg/L test mat. (meas. (arithm. mean)) based on: length

NOEC (11 d) for freshwater fish (*Oncorhynchus mykiss* (reported as *Salmo gairdneri*)), embryo and sac-fry stage: (sub)lethal effects, flow-through: ≥ 0.28 mg/L test mat. (meas. (arithm. mean)) based on: number hatched

NOEC (60 d) for freshwater fish (*Oncorhynchus mykiss* (reported as *Salmo gairdneri*)), embryo and sac-fry stage: (sub)lethal effects, flow-through: ≥ 0.28 mg/L test mat. (meas. (arithm. mean)) based on: mortality

Short-term toxicity to aquatic invertebrates

EC₅₀ (48 h) for freshwater invertebrates (*Daphnia magna*), static: > 1.4 μ g/L test mat. (meas. (geom. Mean)) based on: mobility

EC₅₀ (96 h) for saltwater invertebrates (*Crassostrea virginica*), flow-through: > 624 μ g/L test mat. (meas. (arithm. mean)) based on: Shell deposition

Long-term toxicity to aquatic invertebrates

NOEC (21 d) for freshwater invertebrates (*Daphnia magna*), flow-through: ≥ 0.76 μ g/L act. ingr. (meas. (arithm. mean)) based on: survival, reproduction, and growth

LOEC (21 d) for freshwater invertebrates (*Daphnia magna*), flow-through: > 0.76 μ g/L act. ingr. (meas. (arithm. mean)) based on: survival, reproduction, and growth

Toxicity to algae/aquatic plants

EC₅₀ (72 h) for freshwater algae (*Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*), static: > 0.86 mg/L test mat. (meas. (geom. mean)) based on: growth rate

EC₅₀ (72 h) for freshwater algae (*Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*), static: > 0.86 mg/L test mat. (meas. (geom. mean)) based on: biomass

NOEC (72 h) for freshwater algae (*Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*), static: ≥ 0.86 mg/L test mat. (meas. (geom. mean)) based on: growth rate

NOEC (72 h) for freshwater algae (*Selenastrum capricornutum* (new name: *Pseudokirchnerella subcapitata*), static: ≥ 0.86 mg/L

Toxicity to sediment organisms

NOEC (28 d) for freshwater sediment organisms (*Chironomus riparius*), static: 180 mg/kg sediment dw test mat. (nominal) based on: emergence rate

EC₅₀ (28 d) for freshwater sediment organisms (*Chironomus riparius*), static: > 1000 mg/kg sediment dw test mat. (nominal) based on: development rate

EC₅₀ (28 d) for freshwater sediment organisms (*Chironomus riparius*), static: > 1000 mg/kg sediment dw test mat. (nominal) based on: emergence rate

Toxicity to terrestrial plants

EC₅₀ (14 d) for terrestrial plants (*Raphanus sativus* (Dicotyledonae (dicots))): > 1400 μ g/L test mat. (nominal) based on: growth

EC₅₀ (14 d) for terrestrial plants (*Lolium perenne* (Monocotyledonae (monocots))): > 1400 μ g/L test mat. (nominal) based on: growth

EC₅₀ (14 d) for terrestrial plants (*Glycine max* (*G. soja*) (Dicotyledonae (dicots))): > 1500 μ g/L test mat. (nominal) based on: growth

Toxicity to aquatic micro-organisms

NOEC (3 h), activated sludge of a predominantly domestic sewage: ≥ 10 mg/L test mat. (nominal) based on: respiration rate

EC₅₀ (3 h), activated sludge of a predominantly domestic sewage: > 10 mg/L test mat. (nominal) based on: respiration rate

Persistence and degradability:

Hydrolysis: The mass balance data indicate that even at 50°C little if any hydrolysis of bis(2-ethylhexyl) terephthalate occurs in the pH range of 4 to 9. This is supported by SPARC calculations that indicate that hydrolysis is unlikely to occur.

Biodegradation in water: Substance is considered to be readily biodegradable.

Ready biodegradability (OECD 301 B (Ready Biodegradability: CO₂ Evolution Test)), activated sludge, domestic, non-adapted: 73.05% after 28 d (CO₂ evolution)

Degradation rate in water: First Order Rate Constant: 4.7×10^{-2} days⁻¹; Half-Life: 15 days

Degradation rate in sediment: First Order Rate Constant: 2.3×10^{-7} days⁻¹

Degradation rate in soil: First Order Rate Constant: 2.3×10^{-6} days⁻¹

Bio-accumulative potential: The measured bio concentration factor (BCF) in the saltwater species, *Crassostrea virginica*, was determined to be 393 L/kg, and represents a moderate potential for bio concentration in this species.

Mobility in soil: log K_{oc}: 5.07-6.6 (QSAR) (5.43 and 5.07 USEPA EpiSuite, 6.6 ACD Labs).

Results of PBT and vPvB assessment: Based on the assessment substance is not considered as PBT/vPvB.

Other adverse effects: No data available.

SECTION 13: DISPOSAL

Reclaim or Dispose of material in accordance with all liable local, state, and federal regulations.

SECTION 14: TRANSPORT REGULATIONS

D.O.T. Shipping Name: Not applicable
Air-ICAO (International Civil Aviation Organization): Not regulated
Sea- IMDG (International Maritime Dangerous Goods): Not regulated

SECTION 15: REGULATIONS

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/;

Regulation (EC) No 1272/2008 of the European parliament and of the council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH);

COUNCIL DIRECTIVE of 27 June 1967 in the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances (67/548/EEC).

Authorizations: Not required.

Restrictions of use: None

Chemical safety assessment: A chemical safety assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

Abbreviations:

BCF: Bioconcentration factor

DNEL: Derived no effect level

EC₅₀: Median effective concentration

LC₅₀: Median lethal concentration

LD₅₀: Median lethal dose

LOEC: Lowest observed effect concentration

NOAEL: No observed adverse effect level

NOEC: No observed effect concentration

NOEL: No observed effect level

PBT: Persistent, bioaccumulative, toxic chemical

PNEC: Predicted no-effect concentration

vPvB: Very persistent, very bioaccumulative chemical

Description of identified uses:

End-Use Segment	Life Cycle Stage	Su	PC	PROC	AC	ERC
Own Manufacture (ESIG)	Ind. Manufacturing	SU8, 9	-	PROC 1,2,3,4,8a,8b,15	-	ERC1
ALL (non plast.)	Formulation	SU10	-	PROC1,2,3,4,5,8a,8b,9,14,15	-	ERC2,3
ALL	Distribution & Storage	SU10	-	PROC1,2,3,4,5,8a,8b,9,15	-	ERC 2
Adhesives and Sealants (FEICA)	Ind. Manufacturing	SU3		PROC1,2,3,4,5,7,8 a,8b,9,10,13		ERC5

Coatings & Inks (CEPE)	Ind. Manufacturing	SU3, 7	-	PROC1,2,3,4,5,7,8 a,8b,10	-	ERC5
	Professional	SU22	-	PROC2,3,4,5,7,8a, 10,11,19	-	ERC8c, 8f
	Consumer	-	PC9a	-	-	ERC8c, 8f
Construction formulation additives	Professional	SU19, 22	-	PROC5, 8b,10	-	ERC8c, 8f
	Consumer	SU21	PC1-B2	-	-	ERC8c, 8f, 10a,11a,
Plasticizer (plastisol)	Formulation	SU10	-	PROC1,2,3,4,5,8a, 8b,9,14,15	-	ERC2
	Ind. Manufacturing	SU3	-	PROC1,2,3,5,8a,8b ,10,13	-	ERC3
	Professional	SU19, 22	-	PROC3,5,8a,10,19	-	
	Consumer	SU21	PC32	-	AC5-2,10,13-2.13-3	ERC10a,11 a
Plasticizer (pvc articles)	Formulation	SU10		PROC1,2,3,4,5,6,8 a,8b,9,14,15		ERC2
	Ind. Manufacturing	SU3		PROC3,4,5,8a,8b,9 ,14,21,24		ERC3
	Consumer	SU21	PC32		AC5-1,10,13	ERC10a, 11a
Laboratory use	Professional	SU22		PROC 15	-	ERC8a,9a

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