Safety Data Sheet (SDS)

Revision / Review Date: 11-5-2014

1. Chemical Product and Company Identification

Product Name:	DOTP
Distributed By:	HB Chemical 1665 Enterprise Parkway Twinsburg Oh 44087 Phone - 330-920-8023
MSDS Prepared By (w Suppliers Input):	HB Chemical
Chemical Name / Family:	Bis(2-ethylhexyl) terephthalate
EC No:	229-176-9
CAS No:	6422-86-2
REACH Registration No:	01-2119446265-39-0006
OSHA Status	Not Hazardous

For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

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.

3. Composition / Information on Ingredients

Product identifier type in accordance with Article 18(2) of Regulation (EC) No 1272/2008	Identifier 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

4. First Aid Measures

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.

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.

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 steams. Dike for later disposal. Reclaim or dispose of in accordance with local, state, and federal regulations

7. Handling and Storage:

Precautions 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.

8. Exposure Controls / Personal Protection

Control parameters: Community workplace exposure limits were not established.

DNELs:

Exposure pattern	DNEL	
	Workers	General Population
Long-term – inhalation, systemic	23.2 mg/m³	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
$PNEC_{marine\text{-}water}$	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/kgfood

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 a good industrial hygiene practice to 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)

9. Physical and Chemical Properties

Appearance:	colorless liquid (at room temperature)
Odour:	mild odour
Odour threshold:	no data available
pH:	no data available
Melting point/freezing point:	<= -67.2℃ (at 1 atm)
Initial boiling point and boiling range:	375+/-5℃ (extrapolated to 101.325 Pa)
Flash point:	212 +/-2℃ (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 limits:	no data available
Vapour pressure:	0. 001 Pa (at 25℃)
Vapour density:	no data available
Relative density:	0.98 +- 0.0001 g/cm^3 (density at 20℃)
Solubility(ies):	water solubility: 0.4 ug/L
Partition coefficient: n-octanol/water:	Log Pow = 5.72 (method equivalent to OECD 107 guideline)
Auto-ignition temperature:	387 +/-5℃ (at 98 kPa)
Decomposition temperature:	no data available
Viscosity:	65.8 mPa s (dynamic) (at 25℃)
Explosive properties:	no explosiveness potential (no functional groups present with explosive properties per Annex VII 7.11)
Oxidising properties:	none (the material is incapable of reacting exothermically with combustibles)

9.2 Other information: Surface tension: 32.7 +/- 1 mN/m (at 22℃).

10. Stability and Reactivity

Stability:	This product is stable under normal conditions.
Incompatibility (Materials to Avoid):	Material reacts with strong oxidizing agents
Conditions to Avoid:	No data available.
Hazardous Polymerization:	Hazardous polymerization will not occur

11. Toxicological Information

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.

Acutetoxicity: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 mg/kg bw (male/female)

Acutetoxicity: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.

Humandata

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 an Institutional Review Board in accordance with CFR, Title 21, Parts 50 and 56.
Coverage: semiocclusive
Species: human
Results: not irritating

Animaldata

Method: OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Coverage: semiocclusive (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℃. Following exposure for 5 days/week, 6 hours/day 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.

Humandata

Method: HRIPT (modified Draize procedure)
Species: human male/female
Routes of administration: Induction: epicutaneous, semiocclusive; Challenge: epicutaneous, open
Results: not sensitising

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.

Bacterialreversemutationassay(e.g.Amestest)(genemutation)

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, 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.

Mammaliancellgenemutationassay(genemutation)

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, 0.002, 0.005, 0.01, 0.02, 0.039, 0.078, 0.156, 0.313, 0.625, 1.25, 2.5, 5, 10, and 20 nL/mL
Mutation Assay: 0, 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

Bacterialforwardmutationassay(genemutation)
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:
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

Invitromammalianchromosomeaberrationtest(chromosomeaberration)
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)
12000 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): 12000 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 or 12000 ppm.)

NOEL (testicular toxicity): 12000 ppm (analytical) (male) (No adverse changes were observed in the testes during the study.)

NOEL (liver toxicity): 12000 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. Efects
onfertility
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 parental 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. Increases 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.)
Developmentaltoxicity
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 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.)
Developmentaltoxicity
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-single exposure:

Substance is not classified for specific target organ toxicity after single exposure 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

STOT-repeated exposure:

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

Repeateddosetoxicity:oral

Method: EPA guideline 799.9310 TSCA "90-Day Oral Toxicity Study in Rodents"
Species: rat (Sprague-Dawley) male/female
Routes of administration: oral: feed
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 bw/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).)

Repeateddosetoxicity: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 inhalation exposure to di (2-ethyhexyl) terephthalate at the highest concentration that could be generated by heating the test substance to 95 ℃.)

Repeateddosetoxicity:dermal

Method: no guideline followed - Undiluted di (2-ethylhexyl) terephthalate was applied 9 times over 11 days to the clipped skin of 5 guinea pigs. The 0.5 mL dose applied equates to 813 to 1144 mg/kg bw/day. Animals were observed for clincal abnormalities and body weight changes. No necropsy was performed at study termination.
Species: guinea pig (Dunkin-Hartley)
Routes of administration: coverage: open
Exposure: once daily (9 applications over an 11 day period)
Results: No deaths, signs of skin absorption or systemic toxicity were evident when guinea pigs were exposed to 0.5 mL of undiluted 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.

12. Ecological Information

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

Short-termtoxicitytofish

LC_{50} (96h) for freshwater fish (*Pimephales promelas*), static: > 984 mg/L test mat. (nominal)

LC_{50} (7d) for freshwater fish (*Salmo gairdneri*), flow-through: > 0.25 mg/L test mat. (arithm. mean)

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

Long-termtoxicitytofish

NOEC (60d) 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 (60d) 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 (11d) 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 (60d) 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-termtoxicitytoaquaticinvertebrates

EC_{50} (48h) for freshwater invertebrates (*Daphnia magna*), static: > 1.4 µg/L test mat. (meas. (geom. mean)) based on: mobility

EC_{50} (96h) for saltwater invertebrates (*Crassotrea virginica*), flow-through: > 624 µg/L test mat. (meas. (arithm. mean)) based on: Shell deposition

Long-termtoxicitytoaquaticinvertebrates

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

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

Toxicitytoalgae/aquaticplants

EC_{50} (72h) for freshwater algae (*Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata*), static: > 0.86 mg/L test mat. (meas. (geom. mean)) based on: growth rate

EC_{50} (72h) for freshwater algae (*Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata*), static: > 0.86 mg/L test mat. (meas. (geom. mean)) based on: biomass

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

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

Toxicitytosedimentorganisms

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

EC_{50} (28d) for freshwater sediment organisms (*Chironomus riparius*), static: > 1000 mg/kg sediment dw test mat. (nominal) based on: development rate

EC_{50} (28d) for freshwater sediment organisms (*Chironomus riparius*), static: > 1000 mg/kg sediment dw test mat. (nominal) based on: emergence rate

Toxicitytoterrestrialplants

EC_{50} (14d) for terrestrial plants (*Raphanus sativus* (Dicotyledonae (dicots))): > 1400 µg/L test mat. (nominal) based on: growth

EC_{50} (14d) for terrestrial plants (*Lolium perenne* (Monocotyledonae (monocots))): > 1400 µg/L test mat. (nominal) based on: growth

EC_{50} (14d) for terrestrial plants (*Glycine max (G. soja)* (Dicotyledonae (dicots))): > 1500 µg/L test mat. (nominal) based on: growth

Toxicitytoaquaticmicro-organisms

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

EC_{50} (3h), activated sludge of a predominantly domestic sewage: > 10 mg/L test mat. (nominal) based on: respiration rate

Persistence and degradablility:

Hydrolysis: The mass balance data indicate that even at 50℃ 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 hydrolyses is unlikely to occur.

Biodegradationinwater: 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 rateinwater: First Order Rate Constant: $4.7x10^{-2}$ $days^{-1}$; Half-Life: 15 days Degradation rateinsediment: First Order Rate Constant: $2.3x10^{-7}$ $days^{-1}$

Degradationrateinsoil: First Order Rate Constant: $2.3x10^{-6}$ $days^{-1}$

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

13. Disposal Considerations

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

14. Transport Information

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

15. Regulatory Information

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 Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC 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, Authorisation and Restriction of Chemicals (REACH);

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

Authorisations: not required

Restrictions on use: none

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

16. Other Information

Abbreviations:

BCF: bioconcentration factor
DNEL: derived no effect level
EC_{50}: median effective concentration
LC_{50}: median lethal concentration
LD_{50}: 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	-	PROC1, 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, 8a, 8b, 9, 10, 13		ERC5
Coatings & Inks (CEPE)	Ind. Manufacturing Professional Consumer	SU3, 7 SU22 -	- - PC9a	PROC1, 2, 3, 4, 5, 7, 8a, 8b, 10 PROC2, 3, 4, 5, 8a, 10, 11, 19 -	- - -	ERC5 ERC8c, 8f ERC8c, 8f
Construction formulation additives	Professional Consumer	SU19, 22 SU21	- PC1-B2	PROC5, 8b, 10 -	- -	ERC8c, 8f ERC8c, 8f, 10a, 11a
Plasticizer (plastisol)	Formulation Ind. Manufacturing Professional Consumer	SU10 SU3 SU19, 22 SU21	- - - PC32	PROC1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15 PROC1, 2, 3, 5, 8a, 8b, 10, 13 PROC3, 5, 8a, 10, 19 -	- - - AC5-2, 10, 13-2, 13-3	ERC2 ERC4, 5 ERC8c, 8f ERC10a, 11a
Plasticizer (pvc articles)	Formulation Ind. Manufacturing Consumer	SU10 SU3 SU21	 PC32	PROC1, 2, 3, 4, 5, 6, 8a, 8b, 9, 14, 15 PROC3, 4, 5, 8a, 8b, 9, 14, 21, 24	 AC5-1, 10, 13	ERC2 ERC3 ERC10a, 11a
Laboratory use	Professional	SU22		PROC15	-	ERC8a, 9a

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.