

MATERIAL SAFETY DATA SHEET

MSDS No.02-10
According to Regulation (EC) No.1907/2006
REACH



BIS-(2-ETHYLHEXYL)PHTHALATE/Dioctylphthalate

Revision:8 Last up date: November 28, 2008 Date issued: July 21,1999 Page 1/8



Toxic

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the substance/preparation

Trade Name	Bis-(2-ethylhexyl)phthalate/ Dioctylphthalate
Chemical Name	Bis-(2-ethylhexyl)phthalate
Family	Esters plasticizers
Common Synonyms	DOP, Phthalic acid, bis-(2-ethylhexyl) ester 1,2-Benzenedicarboxylic acid, bis-(2-ethylhexyl) ester
Chemical Formula	$C_6H_4 (COOCH_2CHCH_2CH_2CH_2CH_3)_2$ C_2H_5
Molecular Weight	390.5

1.2.Uses of the substance/preparation

DOP is one of the most extensively used plasticizers in plastics processing. Most than 90% of dioctylphthalate produced in Europe are used to plasticized PVC to make flexible PVC product. In addition, phthalates are used in other non-PVC application such as: paints, rubber products and some adhesives.

1.3. Company/undertaking identification

OLTCHIM S.A.

Address	1 Uzinei Street, 240050 - Ramnicu Valcea, Romania
Telephone	+40/250/701200
Fax	+40/250/735446
e-mail	oltchim @oltchim.ro

1.4.Emergency telephone number +40 / 250/738141

2. HAZARD IDENTIFICATION

EC Classification according to Directive 67/548/CEE, Annex I: Repr. Cat. 2; R60-61
May cause adverse reproductive effect.

Health effects: Not normally considered a health hazard due to the low vapor pressure. May cause skin and eye irritations. Harmful if swallowed or inhaled. Affect the central nervous system, liver, reproductive system and gastrointestinal tract.

Environmental effects: No critical hazard to the environment in the ordinary sense of valid regulations due to the low vapor pressure. This product is biodegradable. An appreciable bioaccumulation potential is to be expected. No ecological problems are to be expected when the product is handled and used with due care and attention. Bis-(2-ethylhexyl)phthalate is not classified as dangerous for environmental as specified in Directive 67/548/EEC, Annex I.

Emergency overview: Low hazard for usual industrial or commercial handling. Slight fire hazard.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components /constituents	Concentration %,wt.	CAS No.	EC No.	Annex I Index No.	Hazard Symbol	R phrases
Bis-(2-ethylhexyl)phthalate	99.5	117-81-7	204-211-0	607-317-00-9	T	R60 R61

4. FIRST - AID MEASURES

Seek medical attention immediately in all cases of exposure!

Inhalation: Inhalation of mist can cause nausea and is irritating to the respiratory tract. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Skin contact: Wash the contaminated skin with plenty of soap or mild detergent and water for at least 15 minutes while removing contaminated clothing and shoes. If irritation persists after washing, get medical attention.

Eye contact: Wash the eyes immediately with large amount of water lifting the upper and lower lids, until no evidence of chemical remains at least 15-20 minutes. If irritation persists after washing get medical attention. Contact lenses should not worn with this product.

Ingestion: If swallowed do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE - FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam or carbon dioxide and water spray.

Unsuitable extinguishing media: None

Exposure hazards: Combustible. The vapor is heavier than air and will accumulate in low area. Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapor can burn in open or explode if confined. Use water-spray to cool fire exposed containers. Prevent entry into sewers and watercourses of the wastes resulted from fire.

Protection of fire-fighters: Wear full protective clothing and self contained breathing apparatus with full face piece operated in positive pressure mode.

Hazardous combustion products: Carbon monoxide and dioxide may form when heated to decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ventilate area of leak or spill. Persons performing clean-up work should wear adequate personal protective equipment and a self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Keep unnecessary and unprotected personnel from entering. Remove all sources of ignition.

Environmental precautions: Prevent from contamination the ground and the surface water by isolating the hazard area. Contain and recover liquid when possible. Keep closed containers and dispose according to all applicable federal, state or local environment regulations

Methods of cleaning up: Absorb spills with dry sand, earth or similar non-combustible absorbent material then collect into drums for later disposal. For large, dike and pump into suitable containers for disposal. Flush area with plenty of water. Waste water will be treated in biological treatment plant.

Special precautions: Do not use combustible materials, such as saw dust. Do not flush to sewer!

7. HANDLING AND STORAGE

Handling: Protect containers from physical damage. The person which handling the product must wear protective equipment. Sources of ignition such as smoking and open flames prohibited where bis-(2-ethylhexyl)phthalate is handled.

Storage: Store in a tightly closed containers in a cool, dry, well ventilated area away from sources of heat, moisture and incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid).

8 . EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

Long-term limit (8-hourTWA reference period) : 5 mg/m³

Short-term exposure limit (15-minute reference period): -

Engineering control : A system of local and/or general exhaust is recommended to keep employee exposure as low as possible. Local exhaust ventilation is generally preferred because it can control the emission of the contaminant at its sources, preventing dispersions of it into the general work area.

Personal protective equipment

Respiratory protection: For conditions of use where exposure to substance is apparent, consult an industrial hygienist. For emergencies or instances where the exposure level are not known, use a full face piece positive pressure air-supplied respirator.

Hand protection: Wear rubber gloves.

Eye / Face protection: Use chemical safety goggles and/or full face shield where splashing is possible. Maintain eye wash and quick-drench facilities in work area.

Skin protection: Wear impervious protective clothing , including boots, gloves, lab coat apron or coveralls as appropriate, to prevent skin contact.

Other precautions: Maintain shower, eye wash fountain and quick-drench facilities in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

General informations

Appearance	Clear oil liquid
Odor	Characteristic odour

Important health, safety and environmental informations

Boiling point	384°C at 1 atm. pressure
Flash point	~200°C
Flammability	Slight flammable
Explosive properties	explosive under open flamme; above flash point may form explosive vapor/air mixture (explosive limits in air: 0,1-0,2 %) .
Oxidizing properties	no oxidizing properties
Vapor pressure, 20 °C	1,0x10 ⁻⁷ mmHg
Specific gravity (water=1)	0.984 at 20°C
Solubility-water	41µg/l
-organic solvents	miscible with most common solvents

BIS-(2-ETHYLHEXYL)PHTHALATE/Dioctylphthalate

MSDS No. 02-10

Revision: 8 Last up date: November 28, 2008 Date issued: July 21, 1999 Page 5/8

Partition coefficient (log K_{ow}) 9.64
Dynamic viscosity 76-80 mPas

Other informations

Melting point -47°C
Autoignition temperature ~400°C

10 . STABILITY AND REACTIVITY

Chemical stability: Stable under ordinary conditions of use and storage.

Conditions to avoid: Heat, flame, sources of ignition and incompatibles.

Materials to avoid: Strong oxidizers, strong bases.

Hazardous decomposition products: Carbon monoxide and dioxide may form when heated to decomposition. May produce irritating fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION**Animal toxicity data:**

LD₅₀/Oral rat 30600 mg/kg
LC₅₀/Dermal rabbit 25000 mg/kg

Acute toxicity

- **Inhalation:** At significant concentrations, it may cause upper respiratory tract (nose, throat) and mucous membrane irritation. Acute larger inhalation exposure may result in tachypnea and dyspnea.
- **Skin contact:** It may causes mild skin irritation. It is not easily absorbed throught human skin.
- **Eye contact:** It may causes mild eyes irritation
- **Ingestion:** Considered innocuous at small does. May cause digestive tract irritation with mild gastric disturbances and diarrhea may occur following ingestion of large doses. CNS depression may occur if large amounts of phthalate esters ar absorbed.

Chronic effects: Repeated and prolonged exposure to the substance can produce target organs damage. The substance may be toxic for liver.

CMR effects:

Carcinogenity: Not classifiable as carcinogeneticby IARC.

Mutagenicity: Mutagenic for bacteria and/or yeast.

Toxicity for Reproduction: May cause adverse reproductive effect.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Fish	<i>L. idus</i>	LC ₅₀ >1000mg/l/48 hours
Bacteria	<i>Ps.putida</i>	EC ₁₀ >1000mg/l/6hours

Mobility: When DOP is released to soil, it usually attaches strongly to the soil and does not move very far away from where it was released. Due to the low vapor pressure and Henry's law constant, the chemical is extended in air in limited amount (0.06-5.0 ng/m³). When it is released into the air, this material may be degraded by reaction with photochemically produced hydroxyl radicals. In water, DOP is predominantly sorbed to suspended particulates and sediments, but some remains dissolved in the aqueous phase. Volatilization is not a dominant transport process.

Persistence and degradability: Released into the air this material may be degraded by reaction with photochemically produced hydroxyl radicals with a half-life of 17.6 hours. Biodegradation might be an important fate process for DOP in water under aerobic conditions. The half life under aerobic conditions is about 30 days in surface water, 14 days in moist soils, 17 days in activated sludges and 31-98 in dry soils.

Bioaccumulative potential: Bioconcentration of DOP has been observed in intervertebrates, fish and terrestrial organisms. However, accumulation will be minimized by metabolism and biomagnification in the food chains is not expected to occur.

Other adverse effects: No other informations.

Do not allow to enter waters, waste water or soil!

13. DISPOSAL CONSIDERATIONS

Waste treatment: What ever cannot be saved for recovery or recycling should be handled as non-hazardous waste and sent to an approved incinerator or disposed in an approved waste facility. Dispose of contaminated product, container residues and spill clean up materials in accordance with federal, state and local requirements.

Packaging treatment: The empty containers, tank cars and tank trucks are treated with steam and rinsed with plenty of hot water. The resulted effluent are treated in the same way as waste. The empty and clean containers are to be reused in conformity with regulations

14. TRANSPORT INFORMATION

Bis-(2-ethylhexyl)phthalate has not specific regulations of transportation.

15. REGULATORY INFORMATION

BIS-(2-ETHYLHEXYL)PHTHALATE is classified and labeled under Directive 67/548/EC, Annex I. This product is listed on EINECS.

EC Classification Annex I Index No. 607-317-00-9
Repr. Cat. 2; R60-61

EC Labeling
EC label name BIS-(2-ETHYLHEXYL)PHTHALATE
EC Number 204-211-0
Hazard Symbol **T (Toxic)**

R Phrases **R 60** May impair fertility.
 R 61 May cause harm to the unborn child

S Phrases **S 53** Avoid exposure-obtain special instructions
 before use.
 S 45 In case of accident or if you feel unwell, seek
 medical advice immediately (show the label
 whenever possible)

16. OTHER INFORMATION

List of relevant R-phrases (see chapter 3)

R 60 May impair fertility
R 61 May cause harm to the unborn child

Precautions to be taken in handling and storing: Keep well ventilated the areas where bis-(2-ethylhexyl)phthalate is stored and handled.

Work hygienic practices: Avoid direct contact of substance with skin/eyes. Avoid the exposure of personnel with liver affections.

Interdictions: **Do not drink or eat** in working area.
Do not smoke in or near working area.
The use of open flame in working areas is prohibited.

MSDS Revisions: This Material Safety Data Sheet is made in accordance to Regulation (EC) no.1907/2006 REACH and will replace the previous version 7 dated October 14, 2008.

Revised information:

Chapter 1.2 was completed with additional uses field for DOP.

BIS-(2-ETHYLHEXYL)PHTHALATE/Dioctylphthalate

MSDS No. 02-10

Revision: 8 Last up date: November 28, 2008 Date issued: July 21, 1999 Page 8/8

This MSDS has been elaborated in accordance with Regulation (EC) No.1907/2006 REACH..

The information contained here in is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

This MSDS cannot cover all possible situations which the user may experience during handling and processing. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained within this MSDS should be provided to the user's employees or customers.