

SAFETY DATA SHEET**Product:** DIOCTYL PHTHALATE

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

Identification of the substance:

Product name: DIOCTYL PHTHALATE**Use of the substance:** Plasticizer. PVC compounds (footwear, films, sheeting, palmation materials, tubing, electric cables and wires, vinyl floors and others); Master Batch for PVC; Pigmented paste to be used in Pus.

Supplier identification

Company ELEKEIROZ S.A**Address:** Elekeiroz S.A. (Várzea Paulista-SP Plant)
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(00-55-11) 4596-8788 (business hours)
(00-55-11) 4596-8907 (business hours).
Fax: (00-55-11) 4596-8881**2- HAZARDS IDENTIFICATION****Most important hazards:** May damage fertility.
May damage the unborn child.

Product effects

Adverse human health effects: May damage reproduction. May cause irritation to eye, skin and respiratory and gastrointestinal tracts. May cause Central Nervous System depression.**Environmental effects:** May cause harmful effects to aquatic life.**Physical and chemical hazards:** May produce acrid smoke and fumes if burning.

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Specific hazards: Not applicable.

Main symptoms: May cause difficult to breathing. May cause redness, pain, burning sensation, lacrimation, photophobia, conjunctivitis, edema and keratitis to eyes. Nauseas, abdominal colic and diarrhea. Irritation to throat and nose.

Classification of the chemical product:

Classification system adopted: *European Chemical Bureau* – European Comunity: Directive 67/548/EEC (substances).

Hazard Class and Category: Reproductive toxicity - Category 2.

Risk Phrases: R60: May impair fertility.
R61: May cause harm to the unborn child.

Classification system adopted: REGULATION (EC) No 1272/2008 of the European Parliament and of the Council, of 16 December 2008.

Hazard Class and Category: Reproductive toxicity - Category 1B.

Hazard statements: H360FD: May damage fertility. May damage the unborn child.

3- COMPOSITION/INFORMATION ON INGREDIENTS

Substance name: DIOCTYL PHTHALATE

Chemical formula: $C_{24}H_{38}O_4$

Synonym: DEHP, DOP, Bis (2 Ethylhexyl) Ester, Bis (2 Ethylhexyl) Phthalate, Di (2 Ethylhexyl Phthalate)

Chemical nature: Phthalic Ester

CAS Number: 117-81-7

EINECS number: 204-211-0

Classification: **Directive 67/548/EEC**
Repr. Cat. 2; R60/61
REGULATION (EC) No 1272/2008
Repr. Cat. 1B; H360FD

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4- FIRST-AID MEASURES**Exposure routes**

Inhalation: Remove to fresh air and keep at rest. Monitor respiratory function. If breathing is difficult, give oxygen. If necessary, give artificial respiration. Seek medical attention. Take this SDS.

Skin contact: Remove contaminated clothing and shoes. Wash with plenty of soap and water. Seek medical attention. Take this SDS.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. Take this SDS.

Ingestion: Rinse mouth of victim with plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention. Take this SDS.

Protection of first-aiders and/or special notes to a physician: Avoid contact with this product while helping the victim; keep the victim warmed. Symptomatic treatment should include, above all, measured support as correction of hydro electrolytic and metabolic disturbances.

5- FIRE-FIGHTING MEASURES

Suitable extinguishing media: Combustible if heated. Compatible with dry chemical, water spray, carbon dioxide and polyvalent foam.

Special hazard arising from the chemical: May produce acrid smoke and fumes if burning.

Special protective equipment for fire-fighters: Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions: Remove ignition sources. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin and eyes.

Use protective gloves, safety goggles and protective clothing.

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Environmental precautions Product may cause harmful effects to aquatic life .Prevent from entering into watercourses, sewerage and confined areas.

Cleaning up methods:

Appropriate containment techniques: Collect product and place in appropriate seal containers. In case of significant spill contain it with earth dikes, sand, vermiculite or other inert material.

Appropriate clean up procedures: Discard any product, waste, container or wrapper available in an appropriate manner as not to harm the environment, according to federal regulations, state and local.

Inappropriate containment or clean up techniques: Do not discard directly in the environment or the sewage network.

7- HANDLING AND STORAGE**Appropriate technical measures for handling**

Precautions for safe handling: Avoid inhalation, contact with skin and eyes. Do not handle near incompatible materials. Use proper personal protective equipment as indicated in Section 8.

Hygiene measures: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

Appropriate technical measures for storage

Conditions for safe storage: Keep only in original container, in a cool, dry, well ventilated place. Keep away from food. Store locked up. Keep out of reach of children. Avoid static electricity by grounding.

Incompatible products: Strong oxidants, acids and alkalis.

Packaging compatibilities

Recommended use: Tanks of stainless steel, aluminum or polyester resin reinforced, carbon steel drums.

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8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:	Substance	ACGIH TLV-TWA (mg/m ³)	MAK (mg/m ³)	OSHA PEL-TWA (mg/m ³)	NIOSH REL-TWA (mg/m ³)	NIOSH STEL (mg/m ³)
		Dioctyl Phthalate	5	10	5	5

NIOSH - IDLH = 5000 mg/m³

Exposure controls:

 Engineering controls
 measures:

The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. It is recommended safety shower and eye bath available near work side. Engineering controls are the most effective way of reducing product exposure.

Personal protective equipment:

Eye/face protection: Protective safety goggles.

Skin/body protection: Protective gloves of rubber, nitrilic rubber, or neoprene and protective clothing.

Respiratory protection: Half face respirator for organic vapors. In cases of high potential of exposure use a supplied-air respirator, full facepiece, operated in positive-pressure mode.

Special precautions: Avoid wear contact lenses while using this product.

Hygiene measures: Do not eat, drink or smoke while using this product. Wash hands before eating, drinking, smoking or going to the toilet. Take off all contaminated clothing and wash before reuse.

9- PHYSICAL AND CHEMICAL PROPERTIES

General information:

Physical state: Liquid

Form: Viscous

Odour: Odourless to weak and characteristic

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Important health, safety and environmental information

pH:	Not applicable.
Melting point:	-50°C (-58°F)
Boiling point:	386°C (727°F) a 760 mmHg
Flash point:	215°C (419°F) (open cup)
Ignition point:	390°C
Explosive properties (limits):	Lower = 0.3 % v/v (245°C/474°F) Upper = not available
Vapor pressure:	0.01 mmHg (20°C) or 1.20 mmHg (200°C)
Relative density:	(25/25°C) 0.982. (H ₂ O = 1)
Solubility in water:	Practically insoluble. (< 0.01 g/l) at 20°C
Viscosity:	62cP (25°C)
Vapor density:	16 (Air = 1)
Evaporation rate:	Very low. Butyl acetate = 1

10- STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and handling. Polymerization will not occur.
Materials to avoid:	Strong oxidants, acids and alkalis.
Hazardous decomposition products:	When heated to decomposition it emits acrid smoke and fumes.

11- TOXICOLOGICAL INFORMATION

Acute toxicity:	LD ₅₀ (oral, rats): 25000mg/Kg LD ₅₀ (dermic, rabbit): 25000mg/Kg May cause nausea, abdominal colic and diarrhea. May cause throat and nose irritation and difficult to breathing. May cause CNS depression.
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Skin corrosion/irritation:	May cause skin irritation, with redness and pain burning sensation.
Serious eye damage/irritation:	May cause eye irritation, with redness, pain, burning sensation, lacrimation, photophobia, conjunctivitis, edema and keratitis.
Carcinogenicity:	Database information: A3: Confirmed animal carcinogen with unknown relevance to humans (ACGIH, 2009) B2: Probable human carcinogen (USEPA, 2002) Group 3: The agent is not classifiable as to its carcinogenicity to humans (IARC).
Reproductive toxicity:	May damage fertility. May damage the unborn child. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

12- ECOLOGICAL INFORMATION

Ecotoxicity:	May cause harmful effects to aquatic life. Database information: LC ₅₀ (<i>Daphnia sp.</i> , 48h) = 11 mg/L LC ₅₀ (<i>Salmo gairdneri</i> , 96h) = 100 mg/L
Mobility:	Immobile in soil.
Persistence/degradability:	It is expected that this product present rapid degradability.
Bioaccumulative potential:	It is expected bioaccumulation in aquatic organisms. BCF: 115 – 851 NOEC < 1.0 mg/mL

13- DISPOSAL CONSIDERATIONS

Recommended methods for safe and environmentally preferred disposal	
Disposal methods:	Prior to implementing land disposal of waste residue (including waste sludge), consult local legislation for adequate disposal methods. Empty containers can retain product residues and shall be disposed in accordance with the provisions proposed for the product.

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14- TRANSPORT INFORMATION

International regulations

Land:	UN - "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations, 15th Edition, 2007.
Sea:	IMO - "International Maritime Organization" International Maritime Dangerous Goods Code (IMDG Code) - Incorporating Amendment 34-08; 2008 Edition.
Air:	IATA - "International Air Transport Association" Dangerous Goods Regulation (DGR) - 51th Edition, 2010.
UN classification number:	Not regulated

15- REGULATORY INFORMATION

Regulatory: REGULATION (EC) No 1907/2006 of the European Parliament and of the Council, of 18 December 2006.

Labeling: health, safety and environmental information

Hazard Classes: Reproductive toxicity, hazard category 1B.

Hazard Pictograms:



GHS08

Signal word: Danger.

Hazard statements: H360FD: May damage fertility. May damage the unborn child.

Precautionary statements: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P405: Store locked up.
P501: Dispose of contents/container in accordance local legislation.

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16- OTHER INFORMATION**Recommended
restrictions on use:**

Shall not be used as substances or as constituents of preparations, at concentrations higher than 0.1 % by mass of the plasticized material, in toys and childcare articles.

Toys and childcare articles containing these phthalates in a concentration higher than 0.1 % by mass of the plasticised material shall not be placed on the market.

This information had been based on the current knowledge of the product and intended to describe safety, health and environmental hazards.

Warns that the manuscript of any chemical substance requires the previous knowledge of its hazards for the user. It is contained in the using company of the product promotes training of its employees about possible risks come upon of the product.

SDS elaborated by InterTox: August, 2009 – <http://www.intertox.com.br>

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists;

BCF – Bioconcentration Factor

CAS – Chemical Abstracts Service

EINECS – European INventory of Existing Commercial chemical Substances

IARC – International Agency for Research on Cancer

IDLH – Immediately Dangerous to Life or Health

LC₅₀ – Lethal Concentration 50

LD₅₀ – Lethal Dose 50

MAK (*Maximale Arbeitsplatzkonzentrationen*) – Maximum Allowable Concentrations

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

OSHA – Occupational Safety and Health Administration

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

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STOT – Specific Target Organ Toxicity**STEL** – Short-term exposure limit**TLV** – Threshold Limit Value**TWA** – Time Weighted Average**USEPA** – United States Environmental Protection Agency**Bibliography:**

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