

ALFAAA10415

## Bis(2-ethylhexyl) phthalate

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>产品说明:</b> <b>Product Description:</b>	<b>邻苯二甲酸双(2-乙基己基)酯</b> <b>Bis(2-ethylhexyl) phthalate</b>
<b>Cat No. :</b>	<b>A10415</b>
<b>Synonyms</b>	Bis(2-ethylhexyl) phthalate; DOP; Di-2-ethylhexyl phthalate
<b>CAS No</b>	117-81-7
<b>Molecular Formula</b>	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>
<b>Supplier</b>	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
<b>Emergency Telephone Number</b>	For information <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887
<b>E-mail address</b>	begel.sdsdesk@thermofisher.com
<b>Recommended Use</b> <b>Uses advised against</b>	Laboratory chemicals.

### SECTION 2. HAZARD IDENTIFICATION

<b>Physical State</b> Liquid	<b>Appearance</b> Light yellow	<b>Odor</b> Odorless
<b>Emergency Overview</b> May damage fertility or the unborn child.		

#### Classification of the substance or mixture

Reproductive Toxicity	Category 1B
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#### Label Elements



**Signal Word**

**Danger**

#### **Hazard Statements**

H360 - May damage fertility or the unborn child

## Bis(2-ethylhexyl) phthalate

**Precautionary Statements****Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P308 + P313 - IF exposed or concerned: Get medical advice/attention

**Storage**

P403 - Store in a well-ventilated place

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

None identified.

**Health Hazards**

May damage fertility or the unborn child.

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. . The product is insoluble and floats on water.

Contains a known or suspected endocrine disruptor. Included in the list established in accordance with Article 59(1) for having endocrine disrupting properties. Contains a substance on the National Authorities Endocrine Disruptor Lists.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight %
Di(2-ethylhexyl)phthalate	117-81-7	>95

**SECTION 4. FIRST AID MEASURES****Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation**

Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion**

Call a physician immediately. Clean mouth with water.

**Most important symptoms and effects**

No information available.

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

## Bis(2-ethylhexyl) phthalate

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water mist may be used to cool closed containers. Chemical foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Vapors may form explosive mixtures with air.

**Protective Equipment and Precautions for Firefighters**

Vapors are heavier than air and may spread along floors. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Use personal protective equipment as required. Ensure adequate ventilation. Do not touch damaged packages or spilled material.

**Environmental Precautions**

See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Wear self-contained breathing apparatus and protective suit. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

**Storage**

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

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters**

Component	China	Taiwan	Thailand	Hong Kong
Di(2-ethylhexyl)phthalate	-	TWA: 5 mg/m <sup>3</sup>		-

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Di(2-ethylhexyl)phthalate	TWA: 5 mg/m <sup>3</sup>	(Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) STEL: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	IDLH: 5000 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	STEL: 10 mg/m <sup>3</sup> 15 min TWA: 5 mg/m <sup>3</sup> 8 hr	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

## Bis(2-ethylhexyl) phthalate

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers	-	EN 374	(minimum requirement)
Neoprene	recommendations			
Natural rubber				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Light yellow	
<b>Physical State</b>	Liquid	
<b>Odor</b>	Odorless	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	-50 °C / -58 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	384 °C / 723.2 °F	@ 760 mmHg
<b>Flash Point</b>	195 °C / 383 °F	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid

## Bis(2-ethylhexyl) phthalate

<b>Explosion Limits</b>	<b>Lower</b> 0.1	
<b>Vapor Pressure</b>	1.8 mbar @ 200 °C	
<b>Vapor Density</b>	13.46 (Air = 1.0)	(Air = 1.0)
<b>Specific Gravity / Density</b>	0.981	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Virtually insoluble	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Di(2-ethylhexyl)phthalate	5.03	
<b>Autoignition Temperature</b>	390 °C / 734 °F	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	80 mPa.s at 20 °C	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C24 H38 O4	
<b>Molecular Weight</b>	390.55	

## SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Reactions</b>	No information available.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid</b>	Incompatible products.
<b>Materials to avoid</b>	Strong oxidizing agents.

**Hazardous Decomposition Products** Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

## (a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Di(2-ethylhexyl)phthalate	LD50 = 30 g/kg ( Rat )	LD50 = 25 g/kg ( Rabbit )	LC50 > 10620 mg/m <sup>3</sup> ( Rat ) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;  
 Respiratory No data available  
 Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
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## Bis(2-ethylhexyl) phthalate

Di(2-ethylhexyl)phthalate				Group 2B
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**(g) reproductive toxicity;  
Reproductive Effects  
Teratogenicity** Category 1B  
Product is or contains a chemical which is a known or suspected reproductive hazard.  
Teratogenic effects have occurred in experimental animals.

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Other Adverse Effects** See actual entry in RTECS for complete information

**Symptoms / effects,both acute and delayed** No information available

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Di(2-ethylhexyl)phthalate	LC50: > 0.32 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: > 0.32 mg/L, 96h semi-static (Oryzias latipes) LC50: > 0.32 mg/L, 96h semi-static (Brachydanio rerio) LC50: > 0.32 mg/L, 96h semi-static (Poecilia reticulata) LC50: > 0.67 mg/L, 96h flow-through (Oryzias latipes) LC50: > 100 mg/L, 96h static (Oncorhynchus mykiss) LC50: 0.27 - 0.67 mg/L, 96h flow-through (Pimephales promelas) LC50: > 0.16 mg/L, 96h static (Pimephales promelas) LC50: > 0.200 mg/L, 96h static (Lepomis macrochirus) LC50: > 0.200 mg/L, 96h flow-through (Lepomis macrochirus)	LC50: = 9.4 mg/L, 48h (Daphnia magna) EC50: > 0.16 mg/L, 48h (Daphnia magna)	EC50: > 0.1 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: > 0.1 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: > 130 mg/L, 72h (Desmodesmus subspicatus)	EC50 = 800 mg/L 15 min EC50 = 800 mg/L 30 min EC50 = 800 mg/L 5 min

**Persistence and Degradability  
Persistence** Expected to be biodegradable  
May persist.

**Bioaccumulative Potential** Product has a high potential to bioconcentrate

## Bis(2-ethylhexyl) phthalate

Component	log Pow	Bioconcentration factor (BCF)
Di(2-ethylhexyl)phthalate	5.03	1 - 29.7 dimensionless

**Mobility in soil**

The product is insoluble and floats on water. Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

**Endocrine Disruptor Information**

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Di(2-ethylhexyl)phthalate	Group I Chemical	High Exposure Concern	

**Persistent Organic Pollutant  
Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste from Residues/Unused Products**

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport**

Not Regulated

**IMDG/IMO**

Not regulated

**IATA**

Not regulated

**Special Precautions for User**

No special precautions required

**SECTION 15. REGULATORY INFORMATION****International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Di(2-ethylhexyl)phthalate	-	-	X	X	204-211-0	X	X	X	X	X	X	KE-02196

**National Regulations**

## Bis(2-ethylhexyl) phthalate

Component	Toxic Chemical Substances Control Act
Di(2-ethylhexyl)phthalate 117-81-7 (>95)	Class I (10 wt%) Class II (10 wt%) TRQ = 50 kg

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 24-Nov-2010  
**Revision Date** 12-May-2024  
**Revision Summary** New emergency telephone response service provider.

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**