

Creation Date Oct-2013

Revision Date Oct-2018

Revision Number 2

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

### 1.1. Product identification

Product Description:	<u>Diethyl phthalate</u>
Product Grade:	SQ
Cat No. :	Q23145
Synonyms	Ethyl phthalate
CAS-No	84-66-2
EC-No.	201-550-6
Molecular Formula	C12 H14 O4
Reach Registration Number	01-2119486682-27

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

### 1.3. Details of the supplier of the safety data sheet

Company	Thermo Fisher Scientific India Pvt. Ltd 403-404, B-wing, Delphi, Hiranandani Business Park, Powai, Mumbai 400076, INDIA.
E-mail address	<a href="mailto:laboratorysolutions@thermofisher.com">laboratorysolutions@thermofisher.com</a>

### 1.4. Emergency telephone number

India Toll Free: 18 00 22 22 30  
Chemtrec US: (800)424-9300  
Chemtrec EU: 001(202)483-7616

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Based on available data, the classification criteria are not met

##### Environmental hazards

Based on available data, the classification criteria are not met

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## 2.2. Label elements

Hazard Statements

Precautionary Statements

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Diethyl phthalate	84-66-2	EEC No. 201-550-6	>95	-

Reach Registration Number	01-2119486682-27
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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Ingestion	Do not induce vomiting. Clean mouth with water. Get medical attention.
Inhalation	Remove from exposure, lie down. Move to fresh air. If not breathing, give artificial respiration. Obtain medical attention.
Protection of First-aiders	No special precautions required.

### 4.2. Most important symptoms and effects, both acute and delayed

. Central nervous system disorders

### 4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

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## **5.1. Extinguishing media**

### **Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Use water spray to cool unopened containers. Chemical foam.

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

No information available.

## **5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

## **5.3. Advice for firefighters**

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**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment.

### **6.2. Environmental precautions**

See Section 12 for additional ecological information. Do not flush into surface water or sanitary sewer system.

### **6.3. Methods and material for containment and cleaning up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Prevent product from entering drains. Keep in suitable, closed containers for disposal. Do not flush into surface water or sanitary sewer system.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Take precautionary measures against static discharges. Wash hands before breaks and immediately after handling the product.

### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

### **7.2. Conditions for safe storage, including any incompatibilities**

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

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## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
Diethyl phthalate		STEL: 10 mg/m <sup>3</sup> 15 min TWA: 5 mg/m <sup>3</sup> 8 hr	TWA / VME: 5 mg/m <sup>3</sup> (8 heures).	TWA: 5 mg/m <sup>3</sup> 8 uren	TWA / VLA-ED: 5 mg/m <sup>3</sup> (8 horas)

Component	Italy	Germany	Portugal	The Netherlands	Finland
Diethyl phthalate			TWA: 5 mg/m <sup>3</sup> 8 horas		TWA: 5 mg/m <sup>3</sup> 8 tunteina STEL: 10 mg/m <sup>3</sup> 15 minuutteina

Component	Austria	Denmark	Switzerland	Poland	Norway
Diethyl phthalate	MAK-KZW: 5 mg/m <sup>3</sup> 15 Minuten MAK-TMW: 3 mg/m <sup>3</sup> 8 Stunden	TWA: 3 mg/m <sup>3</sup> 8 timer	TWA: 5 mg/m <sup>3</sup> 8 Stunden	STEL: 15 mg/m <sup>3</sup> 15 minutach TWA: 5 mg/m <sup>3</sup> 8 godzinach	TWA: 3 mg/m <sup>3</sup> 8 timer STEL: 3 mg/m <sup>3</sup> 15 minutter.

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Diethyl phthalate	TWA: 5.0 mg/m <sup>3</sup>	TWA-GVI: 5 mg/m <sup>3</sup> 8 satima. STEL-KGVI: 10 mg/m <sup>3</sup> 15 minutama.	TWA: 5 mg/m <sup>3</sup> 8 hr. STEL: 10 mg/m <sup>3</sup> 15 min		

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Diethyl phthalate	TWA: 3 mg/m <sup>3</sup> 8 tundides. STEL: 5 mg/m <sup>3</sup> 15 minutites.		STEL: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>		TWA: 3 mg/m <sup>3</sup> 8 klukkustundum. Ceiling: 6 mg/m <sup>3</sup>

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Diethyl phthalate	TWA: 0.5 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup> IPRD STEL: 5 mg/m <sup>3</sup>			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Diethyl phthalate	TWA: 0.5 mg/m <sup>3</sup> 0950 STEL: 1.5 mg/m <sup>3</sup> 0950		TWA: 3 mg/m <sup>3</sup> 8 urah	Indicative STLV: 5 mg/m <sup>3</sup> 15 minuter LLV: 3 mg/m <sup>3</sup> 8 timmar.	

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

#### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

**Derived No Effect Level (DNEL)** No information available

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<u>Route of exposure</u>	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

### **Engineering Measures**

None under normal use conditions.

### **Personal protective equipment**

#### **Eye Protection**

Safety glasses with side-shields (European standard - EN 166)

#### **Hand Protection**

Protective gloves

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

#### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

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.

#### **Respiratory Protection**

No protective equipment is needed under normal use conditions.

#### **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:** Particle filter

#### **Small scale/Laboratory use**

Maintain adequate ventilation

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

#### **Environmental exposure controls**

Prevent product from entering drains.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties

**Appearance  
Physical State**

Colorless  
Liquid

**Odor**

Odorless

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Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	298 - 299 °C / 568.4 - 570.2 °F	@ 760 mmHg
Flash Point	156 °C / 312.8 °F	<b>Method</b> - No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	<b>Lower</b> 0.9 Vol% <b>Upper</b> 4.5 Vol%	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	1.118	
Bulk Density	Not applicable	Liquid
Water Solubility	1 g/l (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	<b>log Pow</b>	
Diethyl phthalate	2.35	
Autoignition Temperature	430 °C / 806 °F	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

## 9.2. Other information

Molecular Formula	C12 H14 O4
Molecular Weight	222.24

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	No information available.

### 10.4. Conditions to avoid

Incompatible products.

### 10.5. Incompatible materials

Acids. Oxidizing agents. Strong bases. Strong reducing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

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## Product Information

### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethyl phthalate	LD50 = 8600 mg/kg ( Rat )	LD50 > 11200 mg/kg ( Rat )	

### (b) skin corrosion/irritation;

Based on available data, the classification criteria are not met

### (c) serious eye damage/irritation;

Based on available data, the classification criteria are not met

### (d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

### (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

Not mutagenic in AMES Test

### (f) carcinogenicity;

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

### (g) reproductive toxicity;

Based on available data, the classification criteria are not met

### (h) STOT-single exposure;

Based on available data, the classification criteria are not met

### (i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

None known.

### (j) aspiration hazard;

Based on available data, the classification criteria are not met

### Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed

Central nervous system disorders

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Diethyl phthalate	LC50: = 12 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 16.7 mg/L, 96h	EC50: = 86 mg/L, 48h Static (Daphnia magna) EC50: 36 - 74 mg/L, 48h (Daphnia magna)	EC50: 2.11 - 4.29 mg/L, 96h static (Pseudokirchneriella subcapitata)	EC50 = 112 mg/L 30 min EC50 = 114 mg/L 15 min

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	static (Lepomis macrochirus) LC50: = 22 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 16.8 mg/L, 96h static (Pimephales promelas) LC50: = 17 mg/L, 96h flow-through (Pimephales promelas)		EC50: 42 - 255 mg/L, 72h (Pseudokirchneriella subcapitata) EC50: = 21 mg/L, 96h static (Desmodesmus subspicatus) EC50: = 21 mg/L, 96h (Desmodesmus subspicatus) EC50: = 23 mg/L, 72h static (Desmodesmus subspicatus) EC50: = 23 mg/L, 72h (Desmodesmus subspicatus)	EC50 = 114 mg/L 5 min
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## 12.2. Persistence and degradability

### Persistence

Expected to be biodegradable

### Degradation in sewage treatment plant

Persistence is unlikely.

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Diethyl phthalate	2.35	117

## 12.4. Mobility in soil

The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

## 12.5. Results of PBT and vPvB assessment

No data available for assessment.

## 12.6. Other adverse effects

### Endocrine Disruptor Information

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Diethyl phthalate	Group III Chemical		

### Persistent Organic Pollutant

This product does not contain any known or suspected substance

### Ozone Depletion Potential

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Waste from Residues / Unused Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

#### Contaminated Packaging

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

#### European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

#### Other Information

Do not dispose of waste into sewer.

## SECTION 14: TRANSPORT INFORMATION



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**IMDG/IMO** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**ADR** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**IATA** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Inventories** X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Diethyl phthalate	201-550-6	-		X	X	-	X	X	X	X	X

### National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Diethyl phthalate	WGK 2	

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3**

Legend

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**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/NDL** - 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%

No Observed Effect Concentration

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% **NOEC** -

**POW** - Partition coefficient Octanol:Water **PBT** -

**vPvB** - very Persistent, very Bioaccumulative

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

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

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

**BCF** - Bioconcentration factor

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

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

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Key literature references and sources for data

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

## Training Advice

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

**Creation Date** Oct-2013

**Next Revision Date** Oct-2023

**Revision Summary** SDS section 1 updated and update of Format

**This safety datasheet complies with the requirements of Regulation (EC)No. 1907/2006**

## 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**