
Diocetyl Phthalate

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Diocetyl Phthalate**

Product Code(s) : None reported.

Recommended use of the chemical and restrictions on use

: Plasticiser; Solvent ; Intermediate
Use pattern : professional use
Restriction on use: None known

Chemical family : Pure substance

Classification of the chemical

Clear liquid. Slight odour.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Carcinogenicity- Category 2

Reproductive Toxicity-Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

May damage fertility or the unborn child.
Suspected of causing cancer.

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SAFETY DATA SHEET

Precautionary statement(s)

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical attention/advice. Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause irritation of the mouth, throat and stomach. May cause mild skin irritation. May cause mild eye irritation.

Environmental precautions:

Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Di(2-ethylhexyl) phthalate	Bis(2-ethylhexyl)phthalate DEHP DOP	117-81-7	100.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do not induce vomiting. Rinse mouth thoroughly. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.
- Inhalation* : If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : Wash affected areas with soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Flush with large amounts of water for 15 minutes. Remove contact lenses, if present and easy to do. If irritation or symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed

- : May damage fertility or the unborn child. Suspected of causing cancer. Direct skin contact may cause temporary redness. Direct eye contact may cause temporary redness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

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Special hazards arising from the substance or mixture / Conditions of flammability

: Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

Special fire-fighting procedures

: Evacuate personnel to safe areas. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Avoid release to the environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

: Remove all sources of ignition. Ventilate the area. Prevent further leakage or spillage if safe to do so. Absorb material with inert absorbent, and place into labelled containers for disposal. Contact the proper local authorities.

Special spill response procedures

: In case of transportation accident, contact TERRAPURE ENVIRONMENTAL at 1-800-567-7455.
US CERCLA Reportable quantity (RQ): (100 lbs / 45.4 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Use only outdoors or in a well-ventilated area. Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Keep away from oxidizing agents. Keep away from incompatibles. Label containers appropriately. Wash thoroughly after handling. Keep containers closed when not in use.

Conditions for safe storage : Store locked up. Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:	
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<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Di(2-ethylhexyl) phthalate	5 mg/m ³	N/Av	5 mg/m ³	10mg/m ³

Exposure controls

Ventilation and engineering measures

: Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below their respective threshold limit value.

Respiratory protection

: Respiratory protection is required if the concentrations exceed the TLV. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Seek advice from respiratory protection specialists.

Skin protection

: Wear protective gloves/clothing. Advice should be sought from glove suppliers.

Eye / face protection

: Wear eye/face protection. Safety glasses with side-shields or chemical splash goggles.

Other protective equipment

: Wear appropriate protective clothing to prevent skin contact, such as coveralls or long sleeved shirt, long pants, and shoes and socks. Wear protective gloves. An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards. Avoid

General hygiene considerations

: Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear colourless liquid.
Odour	: Slight odour.
Odour threshold	: No information available.
pH	: No information available.
Melting/Freezing point	: -55°C
Initial boiling point and boiling range	: 2314°C
Flash point	: 215°C
Flashpoint (Method)	: closed cup
Evaporation rate (BuAe = 1)	: No information available.
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by vol.)	: N/Ap
Upper flammable limit (% by vol.)	: N/Ap
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Vapour pressure	: 1.2 mmHg
Vapour density	: (Air = 1) 16

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Relative density / Specific gravity

: 0.985 g/cm³

Solubility in water : Insoluble. (0.1 g/L)

Other solubility(ies) : Soluble in non-polar solvents such as n-hexane and other hydrocarbon solvents.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: 7.94

Auto-ignition temperature : 390°C

Decomposition temperature : >393°C (739.4°F)

Viscosity : 56.6 mPa.s (25°C)
57.46 mm²/s (25°C)

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Absolute pressure of container

: N/Ap

Flame projection length : N/Ap

Other physical/chemical comments

: None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid : Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.

Incompatible materials : See Section 7 (Handling and Storage) for further details.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Inhalation of high concentrations of vapors, may cause respiratory irritation, with throat discomfort, coughing or difficulty breathing.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

: May cause mild skin irritation on prolonged contact.

Sign and symptoms eyes

: Direct eye contact may cause slight redness.

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Potential Chronic Health Effects

: Prolonged exposure can cause redness, swelling, itching, cracking of the skin, dermatitis and sensitization.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Carcinogenicity- Category 2 Suspected of causing cancer.

Reproductive effects & Teratogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Reproductive Toxicity-Category 1 May damage fertility or the unborn child.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Medical conditions aggravated by overexposure

: None known or reported by the manufacturer.

Synergistic materials

: No information available.

Toxicological data

: See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Di(2-ethylhexyl) phthalate	>10.62 mg/L 4 h	>5000 mg/kg	24500mg/kg

Other important toxicological hazards

: See Section 3 for additional information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Harmful to aquatic life.

The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Di(2-ethylhexyl) phthalate	117-81-7	0.16mg/L (Fathead minnow) (no deaths)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC₅₀ / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Di(2-ethylhexyl) phthalate	117-81-7	0.16 mg/L (Daphnia magna) (no deaths)	N/Av	None.

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<u>Ingredients</u>	CAS No	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Di(2-ethylhexyl) phthalate	117-81-7	N/Av	N/Av	None.

Persistence and degradability

: Expected to be readily biodegradable.

Bioaccumulation potential : No information available.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Di(2-ethylhexyl) phthalate (CAS 117-81-7)	7.94	N/Av

Mobility in soil : No information available.

Other Adverse Environmental effects

: No data is available on the product itself.





SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers may contain hazardous residues.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

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SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	Not regulated unless shipped in quantities in one package that equal or exceed the reportable quantity = (100 lbs / 45.4 kg)				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: This information is not available.

SECTION 15 - REGULATORY INFORMATION
US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Di(2-ethylhexyl) phthalate	117-81-7	Yes	100 lb/ 45.4 kg	N/Av	Yes	0.1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Chronic Health Hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Di(2-ethylhexyl) phthalate	117-81-7	Yes	Carcinogen;Developmental Toxicity;male reproductive toxicity	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECS	NewZealand IOC
Di(2-ethylhexyl) phthalate	117-81-7	204-211-0	Present	Present	(3)-1307	KE-02196	Present	HSR002982

SECTION 16. OTHER INFORMATION
Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CFR: Code of Federal Regulations
 CNS: Central Nervous System
 DOT: Department of Transportation
 EPA: Environmental Protection Agency
 EINECS: European Inventory of Existing Commercial chemical Substances
 IARC: International Agency for Research on Cancer
 IBC: Intermediate Bulk Container
 IMDG: International Maritime Dangerous Goods
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 N/Ap: Not Applicable
 N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act

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STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
2. International Agency for Research on Cancer Monographs, searched 2016
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2016(Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2016 version.
6. California Proposition 65 List - 2016 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2016.

Other special considerations for handling

- : Provide adequate information, instruction and training for operators.