



Di-Octyle Terephthalate (DOTP)

Material Safety Data Sheet (MSDS)

PRODUCT NAME

DI-OCTYLE TEREPHTHALATE (DOTP)

Case # 6422-86-2

APPEARANCE

Clear, Colorless oily liquid, Water like appearance, Faint odor

COMPANY: Red Stone international co.

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PREPARED	ENDOURSED	REVIEWED	APPROVED	INTERPRETED
Technical Manager	Technical Engineer	Production Manager	Plant Manager	Stakeholder

PHYSICAL PROPERTIES

Chemical Nam	:	1, 2 Benzene Di-Carboxylic Acid (2-ethyl hexyl) Ester or Bis (2ethylhexyl) Terephthalate.
Molecular Formula	:	C ₂₄ H ₃₈ O ₄
Molecular Weight	:	390.6
Melting Point	:	- 67.2 °C
Initial Boiling Point	:	400 °C

HAZARD IDENTIFICATION

Main Hazards

Low toxicity. It can be irritating and, combustible. It can release Carbon Monoxide toxic fumes and decomposed products like CO₂.

No hazardous polymerization and the product is considered as stable substance.

No possible risk of impaired fertility or possible risk of harm to the unborn child as compared with Phthalate based plasticizers. It is very safe to be used as plasticizers elsewhere.

Health Hazards

Eyes: Liquid or mist may cause slight transient irritation.

Skin: Prolonged or repeated contact with skin may cause slight irritation.

Ingestion: A large dose may cause the central nervous system depression. A small dose may cause gastrointestinal irritation.

Inhalation: Exposure to vapors at higher concentrations may cause irritation of nose, throat & respiratory tract.

Fire Hazards

Flash Point	:	212 °C	Closed cup.	
Auto Ignition Temperature	:	387 °C		
Explosion Limits	:	0.3 %	(Volume)	Lower
	:	Not available	(Volume)	Upper

PACKING

It is available in mild steel (M. S.) drums of 200 Kg net or in Bulk liquid form (Road Tankers of 10 ~ 20 Tons)

FIRST AID

Eyes

Immediately flood eyes with plenty of water for at least 10 minutes, holding the eyes open. Get immediate medical attention if soreness or redness persists.

Skin

Wash affected skin with soap and plenty of water immediately.

Ingestion

Wash out mouth with water. Do not give anything for eating or drinking to an unconscious person. Do not induce vomiting. Get immediate medical attention.

Inhalation

Remove from exposure. Keep warm and at rest.

Advice to Physicians

Treat symptomatically. If swallowed, flush stomach.

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ACCIDENTAL RELEASE MEASURES

Personal Protectives

Wear appropriate protective clothing. Material can create slippery conditions under foot. Keep away spectators, isolate the hazard area and prevent the entrance of persons. Remove ignition source and do not smoke. Contain the spillage if it is safe. Wear respiratory protection, semi mask with chemical cartridge for organic vapors in case of over exposure, Full vision glasses, PVC or nitrile gloves, safety shoes, PVC apron.

Environmental Precautions

Try to prevent the material from entering drains or water reservoirs. Inform local authorities if spillage has entered water course or sewer or has contaminated soil or vegetation. Prevent spread of material by use of temporary bund or impervious barrier.

Spillage

Contain and absorb spilled material using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal.

Disposal

Remove the container from the spill area. If possible keep the waste in proper containers for flammable materials.

Containers: Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near the container. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate close containers.

HANDLING AND STORAGE

Handling

Transfer equipment should allow flowing of static discharges and it should be used anti-deflagrate. Prevent product contact with skin, eyes and respiratory ways. Wear PPEs. Do not smoke; eat in handling, processing or product storage areas. Keep personal hygiene. The area should have emergency shower and eye washing fountains. Prevent soil and water contamination. Avoid formation of and inhalation of fog. Avoid vapors concentration in galleries and ditches /valas. Do not enter confined spaces without previous checking. Do not use plastic containers. Ground all lines and equipments. Avoid incompatible substances

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(oxidizing agents). Keep containers firmly closed when not in use. The atmosphere should be regularly monitored against explosion formation.

Storage

Packages:

They should be stored in covered area, dry and ventilated environment. Protected against sun rays and weather. Storage temperature should be below 25 ° C. Packages should be stored over pallets, preferably made of non combustible material and piled vertically, maximum three layers. Damaged or perforated packages should be emptied.

Bulk Storage:

Recommended carbon steel tanks with nitrogen seal and precaution against moisture action. When using stainless steel product shelf life increases on the other hand without sealing, the tendency of moisture absorption increases. Tanks should be grounded.

Storage temperature: 25~30 ° C

Safe materials for package: Cans, drums and intermediate metallic containers or made of stainless steel.

Do Not Store in: Certain Plastic and Rubbers. Glass reinforced polyester.

General Recommendations:

The area should be provided with protection against atmospheric discharges and static discharges. Empty the containers under inert or non flammable atmospheres, due to risk of fire or explosion caused by static discharges. Storage area should have adequate ventilation. Product empty containers/tanks can be dangerous since they retain residues.

EXPOSURE CONTROL / PERSONAL PROTECTION

Threshold Limit Value

TWA (8 hrs.)	:	N/A
TWA (10 min.)	:	N/A

Respiratory Protection

Respiratory protection is required if there is risk of breathing mists or vapors from heated materials. In this case use a mask with having appropriate filter cartridge.

Hand Protection

Protective gloves (Butyl Rubber or Nitrile Rubber).

Eye Protection

Chemical goggles if there is a risk of splashing.

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Body Protection

Normal working clothing lab coat.

Hygiene Measures

Do not eat, drink or smoke during work time. Remove contaminated or soaked clothing immediately.

ECOLOGICAL EFFECTS

If released to air, it can exist in both vapor and particulate. Vapor phase will degrade relatively fast through photo oxidation reaction by hydroxyl radicals (estimated half-life 16 hrs). Particulate phase can be physically removed from air through wet and dry deposition. If released to soil or water, its expected biodegradation; it degrades quickly. It does not leach into soil and will sediment in aquatic environment.

This product is not expected to be actually toxic to aquatic species due to its poor solubility.

Toxicity to fish, EC 50	:	0.25 mg / liter (7 days)
Toxicity to daphnia EC ₅₀ 48 hrs	:	1.4 Aug / liter
Toxicity Algae EC ₅₀ 72 hrs	:	0.86 mg / liter
Toxicity to other microorganism EC ₅₀	:	10 mg / liter 3 hrs

TRANSPORTATION

This product is not classified for the purpose of transportation

Road Transport ADR / RID

Class	:	Not classified
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Maritime Transport IMPG

Class	:	Not classified
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Air Transport IATA

Class	:	Not classified
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TOXICOLOGICAL INFORMATION

Low order of acute toxicity

LD50 ORAL – Rat	:	≥5,000 mg / Kg bw
Inhalation	:	No data available
LD50 Skin – guinea pig	:	20 mL / Kg.

Sub-acute / Sub- chronic Toxicity

The repeated or prolonged exposure to the substance can produce target organs damage.

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Chronic Toxicity / Carcinogenicity

The substance is toxic to blood the reproductive system, liver, upper respiratory tract.

Reproductive / Developmental Toxicity

The classified development toxin is possible.

FIRE FIGHTING MEASURES***Suitable Extinguishing Agents***

Dry Chemical Powder, CO₂ or Alcohol resistant foam.
Keep containers and surroundings cool with water spray.

Unsuitable Extinguishing Agents

Water Jet.

Protective Equipment for Fire Fighting

Self contained breathing apparatus. Combustion will generate oxides of carbon, bitterly pungent smoke and irritation fumes.

REGULATORY ANED LABELING INFORMATION

Di Octyl Terephthalate (DOTP) is labeled according to following information: -

Hazard Label	:	2 XN (E/International)
Risk Phrases	:	(R40) Possible risk of irreversible effect
Safety Phrases	:	(S36/37) Wear suitable protective (S45) Seek Medical help.

OTHER INFORMATION

This information is based on our present state of knowledge, being given in good faith and is intended to describe the product for the purpose of Health, Safety and Environment only. No warranty either expressed or implied is given which regard to the outcome of the use of such information.

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