

BRENNTAG
DIOCTYL PHTHALATE
(DOP)

EASTMAN
MATERIAL SAFETY DATA SHEET

Revision Date: 01/04/2008
MSDSUSA/ANSVEN/150000001060/Version 8.0

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Eastman(TM) DOP Plasticizer
Product Identification Number(s)	P0040100
Manufacturer/Supplier	Eastman Chemical Company 200 South Wilcox Drive Kingsport, TN 37660-5280 US +14232292000
MSDS Prepared by	Eastman Product Safety and Health
Chemical Name	bis(2-ethylhexyl)1,2-benzenedicarboxylic acid
Synonym(s)	00401-00 904099
Molecular Formula	C24H38O4
Molecular Weight	390.57
Product Use	plasticizer
OSHA Status	hazardous

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

Weight %	Component	CAS Registry No.
100%	di(2-ethylhexyl) phthalate	117-81-7

3. HAZARDS IDENTIFICATION

WARNING!
POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA

HMIS® Hazard Ratings: Health - 2*, Flammability -1, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

4. FIRST-AID MEASURES

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.
Eyes: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
Skin: Wash with soap and water. Get medical attention if symptoms occur.
Ingestion: Seek medical advice.

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5. FIRE FIGHTING MEASURES

Extinguishing Media: water spray, dry chemical, carbon dioxide, foam
Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.
Hazardous Combustion Products: carbon dioxide, carbon monoxide
Unusual Fire and Explosion Hazards: none

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
For Large Spills: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

7. HANDLING AND STORAGE

Personal Precautionary Measures: Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.
Prevention of Fire and Explosion: Keep from contact with oxidizing materials.
Storage: Keep away from food, drink and animal foodstuff. Keep container closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable unless listed below.

DI(2-ETHYLHEXYL)PHTHALATE (DEHP)

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 5 mg/m³

DI-SEC OCTYL PHTHALATE

US. NIOSH: Pocket Guide to Chemical Hazards
Recommended exposure limit (REL): 5 mg/m³
US. NIOSH: Pocket Guide to Chemical Hazards
Short Term Exposure Limit (STEL): 10 mg/m³
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 5 mg/m³

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with

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an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Eye Protection: It is a good industrial hygiene practice to minimize eye contact.

Skin Protection: It is a good industrial hygiene practice to minimize skin contact.

Recommended Decontamination Facilities: eye bath, safety shower, washing facilities

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: liquid

Color: colorless

Odor: slight

Specific Gravity: 0.985 (20 °C)

Vapor Pressure: 20 °C; 0.0000001 mbar

Vapor Density: 13.5

Freezing Point: -50 °C

Boiling Point: 384 °C

Viscosity: 56.6 mPa.s (25 °C)

Solubility in Water: 0.1 g/l

Octanol/Water Partition Coefficient: P: 75,858; log P: 4.88

Flash Point: 216 °C (Cleveland open cup)

Autoignition Temperature: 382 °C (ASTM D2155)

Thermal Decomposition Temperature: > 393 °C (DTA)

10. STABILITY AND REACTIVITY

Stability:	Stable; however, material can decompose at elevated temperatures.
Incompatibility:	Material reacts with strong oxidizing agents.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

General: Possible cancer hazard. May cause cancer based on animal data. DEHP, di (2-ethylhexyl) phthalate, was administered to rats and mice in a lifetime bioassay sponsored by the U.S. National Toxicology Program (NTP). High feed concentrations (mice: 3000 and 6000 ppm; rats: 6000 and 12,000 ppm) were used because of the very low toxicity of di (2-ethylhexyl) phthalate. Liver tumors were produced at both dose levels in each species. Further studies have shown that the liver tumors probably arose from the ability of di (2-ethylhexyl) phthalate at high doses in rodents to perturb lipid metabolism, to proliferate peroxisomes, or to increase the rate of cell division. Since non-rodent species (including primates) have been shown to be very resistant to these effects, and since it is not genotoxic, DEHP probably presents a negligible carcinogenic risk to humans at exposure levels typical of occupational or consumer use. Oral doses of this material that were high enough to cause toxicity in pregnant animals also produced some minor abnormalities in their offspring. High oral doses of this material given to male animals produced reduced fertility. However, high doses to humans handling this material are not expected since oral consumption is not a likely route of significant exposure. Because this material does not evaporate readily and is not easily absorbed through human skin, it is not expected to produce such effects in humans through inhalation or skin exposure when handled in a manner consistent with the precautionary measures contained in this Safety Data Sheet.

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Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oral LD-50:(rat)	30,600 mg/kg
Oral LD-50:(rabbit)	33,900 mg/kg
Dermal LD-50: (rabbit)	> 19,960 mg/kg
Skin Irritation (rabbit)	slight
Skin Irritation (human)	none
Eye Irritation (rabbit)	slight
Skin Sensitization: (human)	none

12. ECOLOGICAL INFORMATION

Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oxygen Demand Data:

BOD-5: 40 mg/g
ThBOD: 2,580 mg/g

Acute Aquatic Effects Data:

96 h LC-50 (fathead minnow): > 0.67 mg/l NOEC: 0.67 mg/l (limit of solubility in fresh water)
96 h LC-50 (rainbow trout): > 0.32 mg/l NOEC: 0.32 mg/l (limit of solubility in fresh water)
96 h LC-50 (sheepshead minnow): > 0.17 mg/l NOEC: 0.17 mg/l (limit of solubility in sea water)
96 h LC-50 (bluegill sunfish): > 0.20 mg/l NOEC: 0.20 mg/l (limit of solubility in fresh water)
96 h LC-50 (daphnid): > 0.16 mg/l NOEC: 0.16 mg/l (limit of solubility in fresh water)
96 h EC-50 (Selenastrum capricornutum): > 0.10 mg/l

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

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DOT (USA)

Class 9, Packing Group III when material is shipped in quantities in one package at or above the Reportable Quantity and when no other hazard class applies; otherwise, not regulated.

Reportable Quantity: 45.4 kg (bis(2-ethylhexyl) phthalate)

Possible Shipping Description(s):

Environmentally hazardous substances, liquid, n.o.s. (bis(2-ethylhexyl) phthalate)
9 UN 3082 III

Sea - IMDG (International Maritime Dangerous Goods)

Class not regulated

Possible Shipping Description(s):

not regulated

Air - ICAO (International Civil Aviation Organization)

Class not regulated

Possible Shipping Description(s):

not regulated

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: D/2/A

SARA 311-312 Hazard Classification(s):
delayed (chronic) health hazard

SARA 313: none, unless listed below
DI(2-ETHYLHEXYL) PHTHALATE

Carcinogenicity Classification (components present at 0.1% or more): none, unless listed below

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IARC (International Agency for Research on Cancer): not classifiable
NTP (National Toxicology Program): reasonably anticipated to be a carcinogen

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

EINECS (European Inventory of Existing Commercial Chemical Substances): This product is listed on EINECS or otherwise complies with EINECS requirements. **EINECS Number:** 204-211-0

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

16. OTHER INFORMATION

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The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information. Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment.