Material Safety Data Sheet
Dioctyl phthalate

ACC# 95099

Section 1 - Chemical Product and Company Identification

MSDS Name: Dioctyl phthalate
Catalog Numbers: AC117090010, AC117090025, AC117090050, AC339140010, AC339140050
Synonyms: Di(2-ethylhexyl)phthalate; Bis(2-ethylhexyl)-1,2-benzenedicarboxylate; Bis(2-ethylhexyl)phthalate; DOP; Dioctyl phthalate; DEHP.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
117-81-7	Dioctyl phthalate	>98	204-211-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid.
Danger! May cause harm to the unborn child. May impair fertility. May cause eye and skin irritation.
Target Organs: Central nervous system, liver, eyes, reproductive system, mucous membranes.

Potential Health Effects
Eye: May cause mild eye irritation. Causes redness and pain.
Skin: May cause mild skin irritation. Human dermal patch testing showed no irritation or sensitization.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression.
Inhalation: Material has a low vapor pressure, so exposure to vapor is not likely. Exposure to dioctyl phthalate occurs from spray or mist, rather than from the vapor, unless heat is applied. If the product is heated, misted or sprayed, it may cause irritation of the respiratory tract if inhaled.
Chronic: DEHP toxicity appears to be a high-dose phenomenon readily demonstrable in some but not all rodent species and strains. Liver toxicity, so characteristic of rodent responses to DEHP, appears to be irrelevant to humans. The carcinogenic response of DEHP has been demonstrated only in one strain of rat and mouse and does not appear to be a feature of toxicity in higher order mammals, especially primates. Reproductive and developmental toxicity, likewise appears to be limited to high-dose effects seen in rodent testing. The relevance to humans of this testing has not been established.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.
Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Water or foam may cause frothing. Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: 199 deg C (390.20 deg F)
Autoignition Temperature: 390 deg C (734.00 deg F)
Explosion Limits, Lower:0.3% @ 474F
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use only with adequate ventilation. Avoid breathing vapor or mist.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dioctyl phthalate	5 mg/m3 TWA	5 mg/m3 TWA 5000 mg/m3 IDLH	5 mg/m3 TWA

OSHA Vacated PELs: Dioctyl phthalate: 5 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless
Odor: slight odor
pH: Not available.
Vapor Pressure: .00001 mm Hg @25 deg C
Vapor Density: 13.46 (air=1)
Evaporation Rate: Not available.
Viscosity: 81.4 cps @ 20 deg C
Boiling Point: 384 deg C @ 760 mm Hg
Freezing/Melting Point:-50 deg C
Decomposition Temperature: Not available.
Solubility: Insoluble.
Specific Gravity/Density:0.98
Molecular Formula:C24H38O4
Molecular Weight:390.55

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, acids, alkalies.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 117-81-7: TI0350000
LD50/LC50:
CAS# 117-81-7:
Dermal, guinea pig: LD50 = 10 gm/kg;
Draize test, rabbit, eye: 500 mg Mild;
Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 500 mg/24H Mild;
Oral, mouse: LD50 = 1500 mg/kg;
Oral, mouse: LD50 = 29.5 gm/kg;
Oral, rabbit: LD50 = 34 gm/kg;
Oral, rat: LD50 = 30 gm/kg;
Skin, rabbit: LD50 = 25 gm/kg;
.

Carcinogenicity:

CAS# 117-81-7:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 1/1/88
- **NTP:** Suspect carcinogen
- **IARC:** Not listed.

Epidemiology: One case of occupational asthma due to DEHP exposure has been reported in a PVC-processing worker. No human data are available on adverse testicular effects following inhalation, oral, or dermal exposure to DEHP.
Teratogenicity: Boys of moms highly exposed to phthalates show stunted genitals. The higher the levels of phthalates in the mothers during the final months of pregnancy, the less masculine their boys were when examined by pediatricians. (Pittsburgh Post-Gazette 5/27/05)
Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: See actual entry in RTECS for complete information.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Terrestrial Fate: Is expected to be immobile in soil. Aquatic Fate: Expected to adsorb to suspended solids and sediments in the water. It is not expected to volatilize from water surfaces. Biodegradation is expected to be of significance under aerobic conditions. However, anaerobic conditions show no biodegradation. Atmospheric: Vapor-phase degraded by reactions with photochemically produced hydroxyl radicals with an extimated 1/2 life of 18 hrs. (HSDB)
Physical: No information available.
Other: Studies suggest that the potential for bioconcentration is high. This is based on data from fathead minnows and bluegill sunfish. (HSDB)

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 117-81-7: waste number U028.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated	Not Regulated
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 117-81-7 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
CAS# 117-81-7: Test for Chemical Fate
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 117-81-7: 100 lb final RQ; 45.4 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 117-81-7: immediate, delayed.
Section 313
This material contains Dioctyl phthalate (CAS# 117-81-7, >98%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 117-81-7 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 117-81-7 is listed as a Priority Pollutant under the Clean Water Act.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 117-81-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Dioctyl phthalate, a chemical known to the state of California to cause cancer. WARNING: This product contains Dioctyl phthalate, a chemical known to the state of California to cause male reproductive toxicity.

California No Significant Risk Level: CAS# 117-81-7: 310 æg/day NSRL

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T

Risk Phrases:

R 60 May impair fertility.

R 61 May cause harm to the unborn child.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

WGK (Water Danger/Protection)

CAS# 117-81-7: 1

Canada - DSL/NDSL

CAS# 117-81-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A.

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

Canadian Ingredient Disclosure List

CAS# 117-81-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/11/1999

Revision #8 Date: 6/08/2005