ARISTECH
Aristech Chemical Corporation

Material Safety Data Sheet

ARISTECH CODE NO. C1007F ORIGINAL ISSUE DATE: 10/17/85 REVISED: 03/01/91

I. IDENTIFICATION

RONK Add-a-phase run capacitors

ARISTECH INFORMATION & EMERGENCY TELEPHONE NUMBERS
(412) 433-7654 (8 a.m.-5 p.m., Mon.-Fri.)
(412) 571-5888 (Off Hour Emergencies)

PRODUCT NAME: Di (2-ethylhexyl) phthalate
COMMON NAME: PX 138; DOP; DEHP; Bis (2-ethylhexyl) phthalate, Di-sec-octyl phthalate
FORMULA: $C_6H_4(COOC_8H_{17})_2$

MANUFACTURER:
Aristech Chemical Corp.
600 Grant Street
Pittsburgh, PA 15230-0250

II. INGREDIENTS AND RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	% WT.	CAS NO.	EXPOSURE LIMITS		ORAL LD_{50}	DERMAL LD_{50}
			OSHA-PEL	ACGIH-TLV		
Di (2-ethylhexyl) phthalate*	100	117-81-7	TWA 5mg/m3 STEL 10mg/m3	TWA 5mg/m3 STEL 10mg/m3	30,600 mg/kg (rat)	25gm/kg (rabbit)

HAZARD DATA
Caution! May cause allergic skin reaction. May cause skin, eye and respiratory tract irritation. Possible cancer hazard. May cause cancer hazard based on animal data risk of cancer depends on duration and level of exposure.

INGREDIENT HAZARD INFORMATION
*Di (2-Ethylhexyl) Phthalate is identified as a SARA Section 313 chemical.

III. PHYSICAL DATA

BOILING POINT (Deg. F) @ 5mmHg	446	SPECIFIC GRAVITY (H2O=1) @ 25 Deg. C	0.982
MELTING POINT (Deg. F)	Not Applicable	PERCENT, VOLATILE BY VOLUME (%) @ 70 F	Negligible
VAPOR PRESSURE (mm Hg.) @ 0 Deg. C	Negligible	pH	Not Applicable
VAPOR DENSITY (AIR=1)	13.5	SOLUBILITY IN WATER	.02%

APPEARANCE AND ODOR:
Clear liquid with a mild odor

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used)	FLAMMABLE LIMITS	Lel	Ucl
420 Deg.F (COC)	@ 474 Deg. F	0.3	Unknown

EXTINGUISHING MEDIA
Water fog, foam, carbon dioxide, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES
Burning of the product will result in the release of toxic fumes. Firefighters should wear self-contained breathing apparatus and protective clothing. Use water to keep fire exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Water or foam may cause frothing.

V. REACTIVITY DATA

Stability	Unstable		CONDITIONS TO AVOID: None known.
	Stable	X	

INCOMPATIBILITY (materials to avoid)
Nitrates, strong oxidizers, strong acids and strong alkalies

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide, organic acid

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Polymerization	May Occur		CONDITIONS TO AVOID: None known
	Will Not Occur	X	

VI. SPILL OR LEAK PROCEDURES

TRANSPORTATION EMERGENCIES
Call CHEMTREC 800-424-9300

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
When material is in contact with hot objects, avoid excessive breathing of fumes. Remove ignition sources. Cover with an excess of absorbent inorganic material (vermiculite). Sweep up and place in labelled drum. Bis (2-ethylhexyl) phthalate is a CERCLA hazardous substance, as amended, and reportable spills must be reported to the National Response Center.
In case of release to the environment, report spills to 800-424-8802, The National Response Center.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state and federal regulations.

VII. HEALTH HAZARD DATA

MAJOR EXPOSURE HAZARD

[ ] INHALATION [X] SKIN CONTACT [X] EYE CONTACT [ ] INGESTION

EFFECTS OF OVEREXPOSURE:
INHALATION: Due to its low vapor pressure, the inhalation exposure hazard potential is regarded to be low. However, if the product is heated, misted or sprayed, concentrations above the recommended exposure limit may cause irritation to the mucous membranes and upper respiratory tract.
SKIN CONTACT: Excessive contact may produce at least mild irritation, skin sensitization an allergic dermatitis.
EYE CONTACT: Exposure to the liquid or mist may produce at least mild irritation.
INGESTION: May cause nausea, vomiting and diarrhea. See - "Other Comments" for additional toxicology data and refer to DEHP Addendum Sheet for a summary and interpretation of toxicology testing on DEHP.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.

CARCINOGENICITY

[X] NTP [X] IARC [ ] OSHA

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OTHER COMMENTS:
The major target organs showing DEHP-related toxicity in animals are the liver and testes. DEHP causes liver enlargement and peroxisome proliferation in rodents. Very high dietary levels of DEHP produced liver cancer in mice and rats of both sexes (NTP 4th Annual Report Summary, pg 83, 1985). DEHP also causes testicular damage and reduced fertility in males and fetotoxicity and teratogenicity in pregnant female rodents (Environ. Health Persp. 1982, 45; Tox. Appl. Pharmcol. 1980, 53:35-41). Refer to DEHP Addendum Sheet for a more complete summary and interpretation.

DEHP Toxicology Summary

The toxicity of DEHP has been questioned, especially since the National Cancer Institute (NCI) reported in 1980 that very high dietary levels of the plasticizer caused liver tumors in mice and rats of both sexes in a lifetime feeding study. Extensive toxicology studies on DEHP have been reviewed and reported to the Consumer Product Safety Commission (CPSC) by the Chronic Hazard Advisory Panel (CHAP) on DEHP (1985).

The Special Programs Division of the Chemical Manufacturers Association (CMA) continues to sponsor research on the safety of phthalate esters in a program established in consultation with the EPA. Aristech has been an active member of this research effort. Currently the CMA program is sponsoring metabolism studies, mutagenicity studies, and studies on liver toxicity of DEHP. The findings of this work are briefly summarized here, and more detailed information can be obtained from CMA.

* DEHP and its metabolites are not genotoxic. The majority of chemicals that cause tumors do so by damaging genetic material.

* DEHP appears to belong to a special class of non-genotoxic carcinogens that share the properties of inducing liver enlargement and liver peroxisomal proliferation in mice and rats. These liver changes may be unique to these rodents and may not occur in other animal species, including man. A plausible mechanism of action for this type of carcinogenesis appears to involve the induction of liver peroxisomes (Environ. Health Perspec. 45, 35-40, 1982). This hypothesis implies a possible threshold for DEHP carcinogenicity.

* DEHP metabolism studies have demonstrated significant quantitative differences between rats and primates. These studies, conducted at the same extremely high doses used in the NCI bioassay, caused changes in the livers of rodents which are not seen at more realistic dose levels. This data may imply equally significant differences in the susceptibility of these species to the carcinogenic effects of DEHP.

* In summary, the NCI bioassy on DEHP at very high dietary levels resulted in a carcinogenic effect that appears unique to rodents. The relevance of this bioassay to lower dose levels and to humans is seriously questioned.

VIII. EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY AND FIRST AID PROCEDURES:
INHALATION: Remove from exposure. If breathing is difficult or has stopped, administer artificial respiration (mouth-to-mouth) or oxygen as indicated. Call a physician.
SKIN CONTACT: Remove contaminated clothing. Wash skin thoroughly with soap and plenty of water. Call a physician.
EYE CONTACT: Flush with large quantities of lukewarm water, for at least 15 minutes. Call a physician.
INGESTION: Give 1-2 large glasses of water or milk. Induce vomiting by touching finger to the back of throat. Call a physician.

IX. SPECIAL PROTECTION INFORMATION

RESPIRATORY:
Respiratory protection approved by NIOSH/MSHA for protection against organic vapors should be used to avoid inhalation of excessive air contaminants. Appropriate respirator selection depends on the type and magnitude of exposure.

SKIN:
Chemical resistance data for barrier materials used should be determined based on the use of this product. Natural rubber, neoprene, polyvinyl chloride and nitrile protective garments have been suggested for protection against materials of this chemical class (ACGIH Guidelines for the Selection of Chemical Protective Clothing, 1983).

EYE:
Employees should be required to wear chemical safety goggles to prevent eye contact. A face shield should be used when appropriate to prevent contact with splashed materials.

VENTILATION:
Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.

OTHER PROTECTIVE EQUIPMENT:
Emergency eye wash stations and deluge safety showers should be available in the work area.

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SECTION IX. SPECIAL PROTECTION INFORMATION (continued)

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Store in a well-ventilated area away from oxidizing agents and sources of heat or ignition. Follow good hygienic practices to avoid potential chronic effects. Contaminated clothing should be removed and laundered before reuse. Avoid repeated or prolonged contact with the liquid and inhalation of mists or vapors. Do not eat or smoke in areas where this material is used or stored.

X. REGULATORY STATUS

TSCA STATUS: This product (or its ingredients if it is a mixture) appears on the Toxic Substances Control Act Inventory (TSCA).

SARA HAZARD CATEGORIES (Section 311 and Section 312)

[ ]	REACTIVITY	[ ]	PRESSURE	[ ]	FIRE
[X]	IMMEDIATE HEALTH	[X]	DELAYED HEALTH		

SARA Section 313: See Section II, Ingredient Hazard Information.

DOT SHIPPING NAME:
Hazardous substance, liquid, n.o.s., (Bis (2-ethylhexyl) phthalate)

DOT HAZARD CLASS:	IDENTIFICATION NUMBER:
ORM-E	NA 9188

HMIS RATINGS (Hazardous Materials Identification System, Scale 0-4)

1	HEALTH	1	FLAMMABILITY	0	REACTIVITY

NFPA RATINGS (National Fire Protection Association, Scale 0-4)

1	HEALTH	1	FLAMMABILITY	0	REACTIVITY

If you require additional information regarding any legal or regulatory requirement referred to in this MSDS, we suggest that you consult with an appropriate regulatory agency, or with a professional with expertise in the area.

This information is taken from sources or based upon data believed to be reliable; however, Aristech Chemical Corporation makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.