DUPONT

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

NAME : DBE
CHEMICAL FAMILY : Aliphatic Dibasic Acid Esters
TRADE NAMES AND SYNONYMS :
Dibasic Ester
DU PONT REGISTRY NO. : 53-60-5
FORMULA : CH3OOC(CH2)n-COOCH3, n=2,3 and 4
MOLECULAR WEIGHT : Ave. 160
MANUFACTURER/DISTRIBUTOR : E.I. du Pont de Nemours & Co., Inc.
1007 Market Street
Wilmington, DE 19898
PRODUCT INFORMATION PHONE : 1-800-441-7515
MEDICAL EMERGENCY PHONE : 1-800-441-3637
TRANSPORTATION EMERGENCY PHONE : CHEMTREC 1-800-424-9300

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HAZARDOUS COMPONENTS

CHEMICAL	CAS NUMBER	%
Dimethyl Glutarate	1119-40-0	66
Dimethyl Adipate	627-93-0	17
Dimethyl Succinate	106-65-0	16.5
Methanol	67-56-1	~0.1
Hydrogen Cyanide	74-90-8	<10ppm

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PHYSICAL DATA

Boiling Point : 196 to 225 deg C
Melting Point : ~ -20 deg C
Specific Gravity : 1.092 at 20 deg C
Vapor Pressure : 0.2 mm Hg at 20 deg C
Solubility in H20 : 5.3 wt % at 20 deg C
% Volatiles : 100 wt % at 20 deg C
Evaporation Rate : <.1 (Butyl Acetate = 1.0)
Odor : Sweet
Form : Liquid
Color : Colorless

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HAZARDOUS REACTIVITY

INSTABILITY : Stable.
INCOMPATIBILITY : Incompatible with strong oxidants, acids, alkalies.
DECOMPOSITION : Decomposes with heat.
POLYMERIZATION : Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point : 100 deg C
Method : TCC
Autoignition Temperature : 370 deg C
Explosive Limits in Air, % by Vol. :
LEL : 0.9
UEL : 8.0

FIRE AND EXPLOSION HAZARDS
Vapor forms explosive mixture with air. Hazardous gases produc
are carbon monoxide.

EXTINGUISHING MEDIA
Water. Chemical Foam. Dry Chemical. CO2.

SPECIAL FIRE FIGHTING INSTRUCTIONS
Flood with water. Wear self-contained breathing apparatus. Wea
protective equipment (eye, body, respiratory).

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HEALTH HAZARD INFORMATION

PRINCIPAL HEALTH HAZARDS

Inhalation LC50: 1 hr. >10.7 mg/l in rats
Skin absorption LD50: >2,250 mg/kg in rabbits
Oral LD50: 8,191 mg/kg in rats

DBE is an eye irritant in animal tests. DBE has also been found to be a moderate skin irritant in rabbits. DBE demonstrated no mutagenic activity when tested in bacterial cell cultures. DBE demonstrated no reproductive toxicity and was not uniquely toxic to the fetus in a developmental study. DBE produced mild nasal lesions in rats.

Anticipated human health effects of overexposure include eye and skin irritation.

CARCINOGENICITY
NONE OF THE COMPONENT(S) OF THIS MATERIAL IS LISTED AS A CARCI
NTP, IARC, OR OSHA.

EXPOSURE LIMITS
AEL (Du Pont) : 10mg/M3 (8 hr TWA)
TLV * (ACGIH) : None Established
PEL (OSHA) : None Established
* TLV is a registered trademark.

EXPOSURE LIMITS - CONTINUED

Methanol: AEL: 200ppm, 8hr TWA, skin; 100ppm, 12hr TWA, skin
TLV*: 200ppm, 8hr TWA, skin; 250ppm STEL; PEL: 200ppm
Hydrogen Cyanide: TLV* 10ppm C, skin

SAFETY PRECAUTIONS
Avoid breathing vapors or mist. Avoid contact with eyes. Wash thorou
after handling.

FIRST AID

INHALATION :
If inhaled, remove to fresh air. If not breathing, give artificial
respiration, preferably mouth-to-mouth. If breathing is difficult, gi
oxygen. Call a physician.

SKIN CONTACT :
Flush skin with water.

EYE CONTACT :
In case of contact, immediately flush eyes with plenty of water for a
least 15 minutes. Call a physician.

INGESTION :
If swallowed, do not induce vomiting. Give large quantities of water.
Never give anything by mouth to an unconscious person. Call a physici

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PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES and PRECAUTIONS
Use only with adequate ventilation. Do not mix with strong oxidants,
acids, alkalies. Do not consume food, drink or tobacco in areas where
they may become contaminated with this material.

PERSONAL PROTECTIVE EQUIPMENT
Coverall chemical splash goggles. Use when splash is likely. Air
supplied respirator. Chemical Cartridge Respirator : Half-mask organi
vapor cartridge. Full-face organic vapor cartridge if eye protection
needed. Impervious gloves such as Neoprene.

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AQUATIC TOXICITY : 96 hr, fathead minnows, LC50: >18ppm <24ppm

SPILL, LEAK, OR RELEASE
Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before
proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPME
during clean up.

Remove source of heat, sparks, flame, impact, friction or electricity
Dike spill. Prevent liquid from entering sewers, water ways or low ar
Recover free liquid for reuse or reclamation. Recover undamaged and
minimally contaminated material for reuse or reclamation. Soak up wit

DISPOSAL INFORMATION - CONTINUED

sawdust, sand, oil dry or other absorbent material.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in acco with EPA or State regulations under the authority of the Resour Conservation and Recovery Act (40 CFR, parts 260-271). Recover free liquid and dispose of in an approved and permitted inciner Recover contaminated water and dispose of in an approved and pe biological treatment system or an approved and permitted deepwe Remove nonusable solid material and/or contaminated soil, for d in an approved and permitted landfill. Do not flush to surface sanitary sewer system.

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SHIPPING INFORMATION

DOMESTIC OTHER THAN AIR (DOT)
Shipping Name : DIBASIC ESTER MIXTURE
Hazard Class : Not Regulated
Freight Class : Plasticizers + Solvents

INTERNATIONAL WATER OR AIR (IMO/ICAO)
Shipping Name : DIBASIC ESTER MIXTURE
Hazard Class : Not Regulated

BULK WATER (USCG)
Shipping Name : DIBASIC ESTER MIXTURE

OTHER SHIPPING INFORMATION
Shipping Containers :
Tank Car : 170,000 lbs
Tank Truck : 42,000 lbs
Steel Drums : 485 lbs

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STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed. D store with strong oxidants, acids, alkalies.

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ADDITIONAL INFORMATION AND REFERENCES

The hydrogen cyanide concentration in DBE is so low as to be toxicologically insignificant when DBE is used as a solvent. However, when reacting DBE with an alcohol and subsequent recovery of methanol, concentration of highly volatile impurities to toxicologically significant levels can occur in the light ends when methanol is topped in order to purify the methanol for reuse. Processors should be aware of this potential hazard.

Date of latest Revision : 09-Apr-87
Person Responsible for MSDS : Petrochemicals - Env. Affairs
Address : E.I. du Pont de Nemours & Co.,Inc.