MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Trade Name **DIBASIC ESTER**

MSDS Number 172

CAS Number 1119-40-0

Supplier ITW TRANS TECH
475 N. GARY AVENUE
CAROL STREAM, IL 60188 USA

Telephone Numbers - 24 Hour Emergency Assistance

Emergency (352)323-3500

Telephone Numbers - General Assistance

Information (630)752-4000

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration	Exposure Limits / Health Hazards
DIMETHYL GLUTARATE	1119-40-0	55 - 65 %	ND
DIMETHYL ADIPATE	627-93-0	15 - 25 %	ND
DIMETHYL SUCCINATE	106-65-0	12 - 23 %	ND

Composition Comments

Manufacturer's Recommendations - 8 hour threshold limit value (TWA): 1.5ppm (10mg/m3) for Dibasic Ester.

3 HAZARDS IDENTIFICATION

Emergency Overview

Caution!
May Cause eye and respiratory tract irritation. May cause blurred vision.

Potential Health Effects, Skin

This material is no more than slightly toxic or slightly irritating based on toxicity studies.

Potential Health Effects, Eye

This material may cause pain, redness, and tearing based on toxicity studies. May cause blurred vision based on human experience.

Potential Health Effects, Inhalation

This product may cause coughing, chest tightness, chest pain and runny nose based on toxicity studies with the components. Overexposure to vapors has caused a blurring of vision.

Potential Health Effects, Ingestion

This material is no more than slightly toxic. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.

4 FIRST AID MEASURES

Skin

Immediate first aid is not likely to be required. This material can be removed with soap and water. Wash heavily contaminated clothing before reuse.

Eye

Immediately rinse with plenty of water. If easy to do, remove any contact lenses. Get medical attention if irritation persists. Remove material from skin and clothing.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Remove material from eyes, skin and clothing.

Ingestion

If swallowed, immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice.

5 FIRE FIGHTING MEASURES

Hazardous Combustion Products

Carbon monoxide and carbon dioxide

Extinguishing Media

Water spray (fog), foam, dry chemical, or CO2

Basic Fire Fighting Procedures

Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Unusual Fire & Explosion Hazards

None known.

Flash Point	108 ºC open cup
AutoIgnition Temperature	370 ºC
Flammability Limits in Air, Lower, % by Volume	1.5
Flammability Limits in Air, Upper, % by Volume	12.5

6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedure

Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water.

Refer to Section 13 for disposal information.

7 HANDLING & STORAGE

Handling

Use only with adequate ventilation. Keep containers closed when not in use. Avoid contact with eyes. Avoid breathing vapors or mist. Wash thoroughly after handling.

Storage

Keep containers tightly closed.
Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. The reuse of this material's container for nonindustrial purposes is prohibited and any reuse must be in consideration of the data provided in this MSDS.

Ventilation

Provide natural or mechanical ventilation to control exposure levels below airborne limits (see below). The use of local mechanical exhaust ventilation at sources of air contamination such as open process equipment is preferred.

Airborne Exposure Limits have not been established.
The manufacturer recommends an airborne exposure guideline of 10 mg/m3 (1.5 ppm) (8-hr. TWA) for this product.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Personal Protection Equipments (PPE)

Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin Protection: Personal Protection Equipments (PPE)

Although this product does not present significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection: Personal Protection Equipments (PPE)

Avoid breathing vapor or mist. Use NIOSH/MSHA approved respiratory protection equipment when airborne limits are exceeded (see above). Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 CFR 1910 134.

9 PHYSICAL & CHEMICAL PROPERTIES

Odor and Appearance

Colorless liquid, mild sweet odor

Boiling Point	200 - 230 ºC @ 760 mm Hg
Specific Gravity	1.09
Melting Point	-25 ºC
Percent Volatile	100 %
Vapor Pressure	0.1 mm Hg @ 20 degrees C
Solubility In Water	5g/100g @ 20ºC
Odor Threshold	No limits established

10 STABILITY & REACTIVITY

Stability/Incompatibility

Product is stable under normal conditions of storage and handling.
Materials to Avoid: Strong acids, alkalis and oxidizing agents.

Hazardous Polymerization

Does not occur.

11 TOXICOLOGICAL INFORMATION

Routes of Exposure

Skin contact and inhalation

LD50

Oral - Slightly Toxic (Rat LD50 - between 500 mg/kg and 5000 mg/kg)
Dermal - Practically Nontoxic (Rabbit LD50 - greater than 5000 mg/kg)

LC50

In studies from the literature the inhalation LC50 (rats) is >10.7 mg/l for a 1 hour exposure to a similar dimethyl ester mixture. No skin allergy was reported in animals following exposure to this mixture.

Toxicological Data

Data from laboratory studies conducted by the manufacturer on Dibasic Ester are summarized below. Acute (single-dose) studies indicate:

Oral - Slightly Toxic (Rat LD50 - between 500 mg/kg and 5000 mg/kg)
Dermal - Practically Nontoxic (Rabbit LD50 - greater than 5000 mg/kg)
Eye Irritation - Moderately Irritating (rabbit)
Skin Irritation - Practically Nonirritating (Rabbit, 4-hour)

Additional information is available on mixtures of dimethyl esters. A one month study conducted by the manufacturer on a mixture including this dimethyl ester shows that no adverse effects were observed at oral doses up to and including 1000 mg/kg/day in rats.

Other studies reported decreased body weights in laboratory animals given a similar mixture in their diet. nasal tissue damage, decreased weight gain and decreased liver weights were reported in rats exposed by repeated inhalation to a similar mixture of dibasic esters for 7 or 13 weeks. No birth defects or adverse reproductive effects have been reported in animals exposed to this mixture. No adverse genetic changes were reported in standard tests using animals or bacterial cells. However, genetic changes were reported in standard tests using animal cells. Additional Information:

This product contains a low level of methanol (0 - 0.1%) and a low level of hydrogen cyanide (CAS 74-90-8), less than 5 ppm. When this product is used as a solvent, the presence of these impurities is toxicologically insignificant. When used as a chemical intermediate where methanol is a reaction by-product, the methanol may be collected and purified for subsequent reuse. The methanol purification process would normally involve a distillation process which removes high and low boiling contaminants. One of the low boiling contaminants would be hydrogen cyanide. Depending upon the degree of concentration, hydrogen cyanide could reach toxicologically significant levels. Methanol recovery operations should be aware of this potential hazard.

12 ECOLOGICAL INFORMATION

Aquatic Toxicity

Invertebrate - 48 hr. EC50 Daphnia Magna: 137 mg/L

Dimethyl esters of succinic, glutaric and adipic were determined to be "inherently biodegradable" in a semi-continuous activated sludge (SCAS) test following OECD guidelines method 302A. BOD data suggests that these materials are "readily biodegradable". In five-day BOD tests, all materials had a BOD-5/COD ratios greater than 0.6.

13 DISPOSAL CONSIDERATIONS

Waste Disposal

This material, when discarded, is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dispose of by incineration or recycle in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

14 TRANSPORT INFORMATION

Department of Transportation (DOT) Requirements:

General Transportation Information for Bulk Shipments

Proper Shipping Name Chemicals N.O.S.

15 REGULATORY INFORMATION

Federal Regulations

TSCA Status: All ingredients are listed.

NFPA Ratings

Health	Flammability	Reactivity	Special Hazards

HMIS Ratings

Health	1	Flammability	1	Reactivity	0	Personal Prot. Equip.	B

16 OTHER INFORMATION

Disclaimer

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of ITW Trans Tech. The data on this sheet applies only to the specific material designated herein. ITW Trans Tech. assumes no legal responsibility for use of reliance upon this data.

Completed On	5/15/2006	**Replaces Sheet Dated**	4/15/2003
Completed By	ITW TRANS TECH		