

## MATERIAL SAFETY DATA SHEET

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### SECTION 1 – CHEMICAL IDENTIFICATION

Trade Name: ECA 100  
Synonyms: ECA 100; Epoxy Curing Agent 100  
Formula: C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>, C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
Chemical Family: Alicyclic Anhydride  
Chemical Use: Chemical intermediate  
Telephone Number: Information (281) 474-3271  
**Emergency Number: Chemtrec (800) 424-9300**

Date of Issue: June 16, 1987  
Revised Date: January 9, 2006

HMIS Hazard Rating 4 = Extreme  
Health: 2\* 3 = High  
Fire: 1 2 = Moderate  
Reactivity: 1 1 = Slight  
\*-Chronic effect indicator. See Section 11. 0 = Least

PPE rating to be supplied by user  
depending on use conditions.

### SECTION 2 – HAZARDS IDENTIFICATION

Inhalation: May cause nose, throat, and lung irritation. May cause respiratory tract sensitization. May aggravate pre-existing respiratory disorders. Chronic exposure may cause bronchitis and asthma.

Skin Contact: May cause severe irritation. Contact with moist skin may cause burns. May cause skin sensitization. May aggravate pre-existing skin disorders.

Eye Contact: May cause severe irritation or burns.

Ingestion: May cause burns of the mouth, throat, and gastrointestinal tract.

### SECTION 3 – COMPOSITION

<u>Components</u>	<u>Percentage</u>	<u>TLV (ppm)</u>	<u>CAS #</u>
Methyltetrahydrophthalic anhydride	>80	Not Established	34090-76-1
Tetrahydrophthalic anhydride	>10	Not Established	85-43-8

## **SECTION 4 – FIRST AID MEASURES**

- Inhalation: Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, administer artificial respiration. Get medical attention.
- Skin Contact: Immediately remove contaminated clothing and shoes. Wipe excess material from skin and flush with water for at least 15 minutes. Use soap if available or follow by washing with soap and water. Do not reuse contaminated clothing without laundering. Get medical attention.
- Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.
- Ingestion: Get medical attention immediately.

## **SECTION 5 – FIREFIGHTING MEASURES**

- Extinguishing Media: Use water, foam, dry chemical, or carbon dioxide (CO<sub>2</sub>).
- Special Firefighting Procedures/Precautions: Firefighters should wear NIOSH approved self-contained breathing apparatus. Responders should wear protective clothing to prevent skin contact. Move containers from fire area. If unable to move, cool sealed containers with water.
- Unusual Fire and Explosion Information: This material reacts with water or steam to form methyltetrahydrophthalic acid tetrahydrophthalic acid. This reaction is slightly exothermic. It should not present any problems if large quantities of water are used.
- Environmental Note: Contain runoff. Material maybe harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.

## **SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Evacuate area of unprotected personnel. Eliminate sources of ignition. Stay upwind and out of low areas. Wear personal protective equipment (See section 8) when responding to spills.

**Spill Management:** Stop source of leak if safe to do so. Remove mechanically by method, which minimizes generation of airborne dusts. Spray area with water to remove trace residue. Contain runoff from residue flush and dispose of properly. Prevent entry into waterways, sewer, or confined areas. Remove contaminated trace residues from soil and dispose of in same manner as material. Place in non-leaking container and dispose of material properly.

**Disposal:** Proper disposal should be evaluated based on regulatory status of this material (refer to section 13).

## **SECTION 7 – HANDLING AND STORAGE**

Containers do not have to be grounded and bonded when material is transferred, but it is recommended as a good practice. Store in a cool, dry place. Keep away from heat, sparks, and flames.

## **SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Respiratory Protection:	NIOSH approved respiratory protection for organic vapors.
Ventilation:	Utilize local exhaust to control high vapor concentrations. Do not rely on general exhaust.
Protective Gloves:	Utilize appropriate impervious chemical gloves.
Eye Protection:	Chemical goggles and possibly a face shield.
Other Protective Equipment:	Wear additional protective clothing to prevent skin contact. This may include aprons, chemical resistant boots, and chemical resistant suits.
Work Practices:	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

## **SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point:	541°F (283°C)
Melting Point:	Not Established
Molecular Weight:	Varies
Volatility/Vol (%):	Not Established
Vapor Pressure (mm Hg):	0.002 at 77°F (25°C) (calculated)
Vapor Density (Air = 1):	>1
Solubility in H <sub>2</sub> O:	Reacts slowly with water
Appearance/Odor:	Clear to yellow liquid / Faint characteristic odor.
Odor Threshold	Not Established
Viscosity (cps):	Not Established
Specific Gravity (H <sub>2</sub> O = 1):	1.205 +/- 0.015 at 77°F (25°C)
Evap. Rate (Butyl Acetate = 1):	<1
Flash Point:	320°F (160°C) PMCC, ASTM D93
Lower Explosive Limit:	Not Established
Upper Explosive Limit:	Not Established
Autoignition Temperature:	Not Established

## **SECTION 10 – STABILITY AND REACTIVITY**

Chemical Stability:	Stable.
Conditions to Avoid:	Incompatible materials.
Incompatible Materials:	Alcohols, acids, bases, and oxidizers. Heat and / or water will affect product quality.
Decomposition Products:	Oxides of carbon. Occurs above 428°F (220°C).
Hazardous Polymerization:	Will not occur.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

<b>ACGIH</b>	Methyltetrahydrophthalic anhydride	TLV:	Not Established	STEL:	Not Established
	Tetrahydrophthalic anhydride	TLV:	Not Established	STEL:	Not Established
<b>OSHA</b>	Methyltetrahydrophthalic anhydride	PEL:	Not Established	STEL:	Not Established
	Tetrahydrophthalic anhydride	PEL:	Not Established	STEL:	Not Established

May cause respiratory tract sensitization. May aggravate pre-existing respiratory disorders. Chronic exposure may cause bronchitis and asthma. May cause skin sensitization. May aggravate pre-existing skin disorders.

**Carcinogenicity listed by:**    **NTP: No**                      **IARC: No**                      **OSHA: No**

**Inhalation: Tetrahydrophthalic anhydride:**

LC: >294 mg/m<sup>3</sup> (rat)

**Dermal: Methyltetrahydrophthalic anhydride:**

LDLo: 1410 mg/kg (rabbit)

**Tetrahydrophthalic anhydride:**

500 mg/24H MLD (rabbit)

**Eyes: Tetrahydrophthalic anhydride:**

20 mg/24H MOD (rabbit)

**Ingestion: Methyltetrahydrophthalic anhydride:**

LD50: 2140 mg/kg (rat)

**Tetrahydrophthalic anhydride:**

LD50: 5410 mg/kg (rat)

**Intraperitoneal: Tetrahydrophthalic anhydride:**

LDLo: 500 mg/kg (mouse)

Please note that the toxicological effects for Methyltetrahydrophthalic anhydride presented in this MSDS are for CAS Registration Number 26590-20-5 which is isomer nonspecific.

**SECTION 12 – ECOLOGICAL INFORMATION**

No data available.

**SECTION 13 – DISPOSAL INFORMATION**

Place in a city, state, or federally permitted disposal facility. Handle in accordance with all applicable regulations.

**SECTION 14 – TRANSPORTATION INFORMATION****US DOT:**

Proper Shipping Name:	Not hazardous per DOT guidelines.
Primary Hazard Class:	Not Applicable.
Secondary Hazard Class:	Not Applicable.
Identification Number:	Not Applicable.

Packing Group:	Not Applicable.
Reportable Quantity:	Not Applicable.
Marine Pollutant:	Not Applicable.
Label(s) Required:	Not Applicable.

## **SECTION 15 – REGULATORY INFORMATION**

### **U.S. Regulations:**

**TSCA:** All substances are listed on, or are exempt from reporting.

### **SARA Hazard Notification:**

Hazard Categories Under Title III:	Acute, Chronic.
Section 302 Extremely Hazardous Substances:	Not Listed.
Section 313 Toxic Chemicals:	Not Listed.
CERCLA RQ:	No.

TSCA 12(b) Export Notification: Not Listed

### **European Regulations:**

EINECS Number:	Methyltetrahydrophthalic Anhydride:	251-823-9
	Index Number:	607-240-00-0
	Tetrahydrophthalic Anhydride:	201-605-4
	Index Number:	607-099-00-5

Labeling according to EC directives.



Irritant

### **Risk Phrases:**

R 41 - Risk of serious damage to eyes.  
R 42/43 - May cause sensitization by inhalation and skin contact.  
R 52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### **Safety Phrases:**

S 2 - Keep out of the reach of children.  
S 22 - Do not breathe dust.  
S 24 - Avoid contact with skin.  
S 26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 37/39 - Wear suitable gloves and eye/face protection.  
S 61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

**Canadian Regulations:**

All substances are listed on the DSL.

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

**Japanese Regulations:**

ENCS Number:	Methyltetrahydrophthalic Anhydride:	3-2451X (unlisted chemical name)
	Tetrahydrophthalic Anhydride:	3-3435X (unlisted chemical name)

**Australian Regulations:**

Methyltetrahydrophthalic anhydride is not listed on the AICS. Tetrahydrophthalic Anhydride is listed.

**Korean Regulations:**

ECL Number:	Methyltetrahydrophthalic Anhydride:	KE-33481
	Tetrahydrophthalic Anhydride:	KE-33465

**Philippines Regulations:**

All substances are listed on the PICCS.

**Swiss Regulations:**

Methyltetrahydrophthalic anhydride is not listed on the Giftliste 1.

Tetrahydrophthalic anhydride is listed on the Giftliste 1.

SWISS Number: G-6852

**SECTION 16 – OTHER INFORMATION****PPE Codes (NPCA-HMIS)**

<b>A</b> – Glasses	<b>G</b> – Glasses, Gloves, Vapor Respirator
<b>B</b> – Glasses, Gloves	<b>H</b> – Goggles, Gloves, Apron, Vapor Respirator
<b>C</b> – Glasses, Gloves, Apron	<b>I</b> – Glasses, Gloves, Dust/Vapor Respirator
<b>D</b> – Faceshield, Gloves, Apron	<b>J</b> – Goggles, Gloves, Apron, Dust/Vapor Respirator
<b>E</b> – Glasses, Gloves, Dustmask	<b>K</b> – Supplied Air, Gloves, Full Protective Suit, Boots
<b>F</b> – Glasses, Gloves, Apron, Dust Respirator	

**Disclaimer**

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