

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>FastCast™</b>	
<b>Other means of identification</b>		
<b>Synonyms</b>	Two-Component Casting Urethane * Polymeric Diphenylmethane 4,4 Diisocyanate * MDI * ISO * "A" Component	
<b>Recommended use</b>	Not available.	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Company name</b>	Environmental Technology, Inc.	
<b>Address</b>	300 S. Bay Depot Road Fields Landing CA 95537	
<b>Telephone</b>	Telephone number	707-443-9323
<b>E-mail</b>	mail@eti-usa.com	
<b>Contact person</b>	Technical Director	
<b>Emergency phone number</b>	CHEMTREC	800-424-9300

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2 (Respiratory System)
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. May cause damage to organs (Respiratory System) through prolonged or repeated exposure.
<b>Precautionary statement</b>	
<b>Prevention</b>	Do not breathe mist or vapor. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/eye protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
<b>Response</b>	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If experiencing respiratory symptoms: Call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Get medical advice/attention if you feel unwell. Take off contaminated clothing and wash it before reuse.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed.

<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Methylene diphenyl diisocyanate (MDI)	101-68-8	30 - 50
Modified MDI	25686-28-6	30 - 50
Diisodecyl phthalate	26761-40-0	10 - 40

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

#### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

#### Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

#### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

#### Ingestion

Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.

#### Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

#### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

#### General information

Exposure may aggravate pre-existing skin or respiratory disorders.

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>). Water spray for large fires.

#### Unsuitable extinguishing media

Water. Do not use water jet as an extinguisher, as this will spread the fire.

#### Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed such as: Isocyanate vapors. Carbon monoxide. Carbon dioxide. Nitrogen oxides. Traces of hydrogen cyanide. If water is used, use large amounts as the reaction between hot Isocyanates and water can be vigorous.

#### Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

#### General fire hazards

Material reacts with water producing carbon dioxide gas. Due to reaction with water producing CO<sub>2</sub>-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if overheated.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

This product is miscible in water.

**Large Spills:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Evacuate and ventilate spill area. Notify appropriate emergency services. If temporary control of Isocyanate vapor is required, a blanket of protein foam may be placed over the spill. Large quantities may be pumped into closed but not sealed containers for disposal. Following product recovery, flush area with water.

**Small Spills:** Evacuate area. Wipe up with absorbent material (e.g. cloth, fleece). Shovel the material into waste container. Do not make pressure tight. Transport to a wellventilated area and treat with a neutralizing solution consisting of a mixture of water and concentrated ammonium Hydroxide or 5-10% sodium carbonate. Add about 10 parts of neutralizer per part of Isocyanate with mixing. Allow to stand 48 hours letting evolved CO<sub>2</sub> escape. Clean surface thoroughly to remove residual contamination.

For waste disposal, see section 13 of the SDS.

**Clean Up:** Decontaminate area using water/ammonia solution with 1-2% added detergent, letting it stand over affected area for at least 10 minutes. Cover contaminated mops, brooms, etc. used for this with plastic and dispose of properly (often by incineration).

### Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash thoroughly after handling. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Reacts with water and emits carbon dioxide gas. Keep containers tightly closed to prevent moisture absorption and contamination. Due to reaction with water producing CO<sub>2</sub>-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if overheated. Always open containers slowly to allow any excess pressure to vent. Store at temperatures between 18°C/65°F and 24°C/75°F. Store in a well-ventilated place. Keep under a nitrogen blanket. Protect from freezing. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
		0.02 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)	TWA	0.005 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
	TWA	0.02 ppm 0.05 mg/m <sup>3</sup> 0.005 ppm

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.
	This product has demonstrated no observable effects at room temperature, however, atmospheric levels should be maintained. In addition, in any spray application or situation where airborne particulates or aerosol are generated, a supplied air source must be provided.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

<b>Appearance</b>	Pale yellow liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Viscous liquid.
<b>Color</b>	Pale yellow.
<b>Odor</b>	Musty. Slight aromatic
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	< 60 °F (< 15.56 °C)
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	400.0 °F (204.4 °C) COC
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	N.E (Nonvolatile Fluid).
<b>Flammability limit - upper (%)</b>	N.E (Nonvolatile Fluid).
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	< 0.0001 mm Hg (68 °F (20 °C))
<b>Vapor density</b>	8.6 (Air = 1)
<b>Relative density</b>	1.2
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Reacts with water.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.

**Decomposition temperature** 646 °F (341.1 °C)

**Viscosity** Not available.

**Other information**

**Thermal hazards**

**Relative self-ignition temperature** Not Self-Igniting.

**10. Stability and reactivity**

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Contact with moisture or other materials which reacts with isocyanates may cause polymerization. May auto-polymerize at very high temperature.

**Conditions to avoid** Moisture. High temperatures. Contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents. Water. Acids. Bases. Alcohols. Metal compounds. Surface Active Agents.

**Hazardous decomposition products** Isocyanate vapor. Carbon monoxide. Carbon dioxide. Nitrogen oxides. Traces of hydrogen cyanide.

**11. Toxicological information**

**Information on likely routes of exposure**

**Inhalation** Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation of MDI mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms, and pulmonary edema.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction.

**Eye contact** Causes serious eye irritation.

**Ingestion** Expected to be a low ingestion hazard. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

**Information on toxicological effects**

**Acute toxicity** Harmful if inhaled.

Components	Species	Test Results
Diisodecyl phthalate (CAS 26761-40-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 3160 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 12.54 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	> 62080 mg/kg
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	> 2.24 mg/l, 1 Hours

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## IARC Monographs. Overall Evaluation of Carcinogenicity

Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8) 3 Not classifiable as to carcinogenicity to humans.

## NTP Report on Carcinogens

Not listed.

## OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs (Respiratory System) through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.
<b>Further information</b>	Exposure may aggravate pre-existing skin or respiratory disorders.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	The product reacts with water to form a solid insoluble reaction product which is non-degradable, according to information available. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
<b>Bioaccumulative potential</b>	Movement in the environment is expected to be limited by the formation of insoluble polymers.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	None known.

## 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

<b>DOT</b>	
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s. (4,4 - Diphenylmethane Diisocyanate (MDI) RQ = 5,000 lb.- MDI)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	8, 146, 335, IB3, T4, TP1, TP29
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Diisodecyl phthalate (CAS 26761-40-0) LISTED  
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8) LISTED

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - Yes

### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Methylene diphenyl diisocyanate (MDI)	101-68-8	30 - 50

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

### US state regulations

#### US. Massachusetts RTK - Substance List

Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)

#### US. New Jersey Worker and Community Right-to-Know Act

Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)

#### US. Pennsylvania Worker and Community Right-to-Know Law

Diisodecyl phthalate (CAS 26761-40-0)  
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)

#### US. Rhode Island RTK

Diisodecyl phthalate (CAS 26761-40-0)  
Methylene diphenyl diisocyanate (MDI) (CAS 101-68-8)

#### US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

#### US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Diisodecyl phthalate (CAS 26761-40-0)

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	22-March-2016
<b>Revision date</b>	-
<b>Version #</b>	01
<b>HMIS® ratings</b>	Health: 2* Flammability: 0 Physical hazard: 0
<b>List of abbreviations</b>	PEL: Permissible Exposure Limit.
<b>References</b>	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available.