PRODUCT IDENTIFICATION

Trade Name: FC ES 24-005 A  
Chemical Family: Aromatic Isocyanate

Chemical Name: Polymethylene polyphenylisocyanate  
Formula: N/A

Synonyms: Polymeric MDI  
Date Prepared: 04/29/08

INGREDIENTS-HAZARD CLASSIFICATION

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS NO.</th>
<th>%</th>
<th>PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylmethane diisocyanate (MDI)</td>
<td>101-68-8</td>
<td>50</td>
<td>0.02 ppm ceiling</td>
</tr>
<tr>
<td>Higher polymers of similar structure</td>
<td>9016-87-9</td>
<td>50</td>
<td>None Established.</td>
</tr>
</tbody>
</table>

1 Not listed as a carcinogen (NTA, IARC, OSHA)

SHIPPING INFORMATION

Not regulated when shipped by land, water or air when packaged in single containers of 5000 pounds or less.

PHYSICAL DATA

Boiling Point (°F): 625°F  
Specific Gravity: 1.24

Solubility in Water: Insoluble, reacts

Appearance and Odor: Brown liquid, slight aromatic odor  
Volatile by Volume: None

FIRE AND EXPLOSION HAZARD DATA

Flash Point (test method): 390°F (P-M)  
Extinguishing Media: Water, dry chemicals, CO₂

Special Fire Fighting Procedures: A self-contained breathing apparatus should be worn to protect against toxic and irritating vapors.

Unusual Fire and Explosion Hazards: At temperatures above 400°F, MDI can polymerize/decompose causing pressure build-up in closed containers and possibly rupture. Avoid water contamination in closed containers which may cause rupture (CO₂ is evolved).
**REACTIVITY DATA**

**Stability:** Stable  
**Conditions to Avoid:** Contamination with water

**Polymerization:** May occur from contact with water, alcohols, glycols or other materials containing active hydrogens.

**Incompatibility:** Water, alcohols, amines, strong bases.

**Hazardous Decomposition Products:** By high heat or fire; CO, CO$_2$, NO$_x$, benzene, toluene, aliphatic fragments, traces of HCN

**HEALTH HAZARD DATA**

**Permissible Exposure Limit:** 0.02 ppm ceiling for MDI.

**Effects of Overexposure:** May cause skin or eye irritation upon contact. Inhalation of MDI vapors may cause breathlessness, chest discomfort, coughing and reduced pulmonary functions. Exposure may produce asthma-like symptoms, also may lead to allergic sensitivity.

**First Aid Procedures**
- **Eyes:** Flush with flowing water for at least 15 minutes, then obtain medical attention.
- **Skin:** Remove contaminated clothing and wash off with soap & water.
- **Inhalation:** Remove to fresh air, administer oxygen if necessary.
- **Ingestion:** Drink large amounts of water. See a physician.

**SPECIAL PROTECTION INFORMATION**

**Ventilation:** MDI has a very low vapor pressure at room temperature. General/local ventilation typically control exposure levels very adequately. Uses requiring heating and/or spraying may require more aggressive engineering controls or personal protective equipment. Monitoring is required to determine engineering controls.

**Respiratory Protection:** The specific respirator selected must be based on contamination levels of this material found in the workplace and the working limits of the respirator. A supplied air, full-face mask, positive pressure or continuous flow respirator or a supplied air hood is required when airborne concentrations are unknown or exceed threshold limit values. A positive pressure, self contained breathing apparatus can be used in emergencies or other unusual situations. Full-face air purifying respirators equipped with organic vapor cartridges can be used in certain situations, see OSHA standard 29CFR 1910.134. All equipment must be NIOSH/MSHA approved and maintained.

**Eye Protection:** Wear goggles or chemical safety glasses.
**Gloves:** Chemically resistant rubber or plastic.
**Other:** Avoid eye and skin contact. Eye wash system and safety showers should be available.

**SPILL OR LEAK PROCEDURES**

Contain spill. Absorb with sawdust, etc., and shovel into open top drum. Decontaminate absorbent and spill area with 2% detergent/water solution. Let waste stand for 1 to 2 days, then dispose of waste in a licensed facility. Respiratory protection/ventilation is recommended during clean-up.

**SPECIAL PRECAUTIONS**

Store between 65°F and 85°F out of sunlight. Keep tightly sealed to prevent moisture contamination. Relieve pressure slowly when opening container. Once opened, protect contents from water with dry atmosphere (~60°F dew point). If isocyanate becomes contaminated, do not reseal. Empty isocyanate drums or other container should be decontaminated by filling with water or decontamination solution, preferably outdoors. Allow to stand for 24-48 hours, open to the atmosphere. DO NOT SEAL DRUMS OR CONTAINERS. Drain the drums and puncture to prevent reuse. Dispose of as ordinary industrial waste.

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The isocyanate (A) component product of this FCI system contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, EPCRA Section 313 (40 CFR 372) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>CERCLA RQ</th>
<th>CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene Bis Phenylisocyanate</td>
<td>101-68-8</td>
<td>5000 lbs.</td>
<td>See MSDS – A Component</td>
</tr>
<tr>
<td>(Same as Diphenylmethane diisocyanate)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Polymeric Diphenylmethane diisocyanate</td>
<td>9016-87-9</td>
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**IMPORTANT NOTICE**

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