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Revision Number 07

1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** AC-@521 Catalyst  
**Product Code(s)** AC-521 Catalyst  
**UN-No** 3082  
**Company** Advanced Chemistry & Technology, Inc.  
7341 Anaconda Avenue  
Garden Grove, CA 92841  
**Company Emergency Phone Number** 714-373-2837 (8 AM to 5 PM Pacific)

2. HAZARDS IDENTIFICATION

**WARNING!**

**Emergency Overview**

Harmful by inhalation  
May cause sensitization by skin contact  
Irritating to respiratory system  
Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

**Appearance** Light yellow

**Physical State** Liquid

**Odor** Slight

**OSHA Regulatory Status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential Health Effects**  
**Principle Routes of Exposure** Skin contact, Inhalation, Ingestion

**Acute Toxicity**  
**Eyes** Moderately irritating to the eyes.  
**Skin** Substance may cause slight skin irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.  
**Inhalation** Harmful by inhalation. Irritating to respiratory system. May cause allergic respiratory reaction.  
**Ingestion** Product may cure in the gastrointestinal tract and form an obstruction. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic Effects** Repeated skin contact may lead to irritation and to sensitization, possible with cross-sensitization to other epoxys.

**Main Symptoms** Skin disorders. Redness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

**Aggravated Medical Conditions** Skin disorders. Call a doctor immediately if allergic signs, particularly in the respiratory tract, are observed. Respiratory disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name                        | CAS-No     | Weight % |
|--------------------------------------|------------|----------|
| Methylene bisphenyl isocyanate (MDI) | 101-68-8   | 15 - 25  |
| Methylenediphenyl diisocyanate       | 26447-40-5 | 30 - 40  |

### 4. FIRST AID MEASURES

|                           |   |
|---------------------------|---|
| <b>General Advice</b>     | Take off contaminated clothing and shoes immediately. May produce an allergic reaction.   |
| <b>Eye Contact</b>        | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.  |
| <b>Skin Contact</b>       | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.  |
| <b>Inhalation</b>         | Remove from exposure, lie down. Call a physician immediately. May cause allergic respiratory reaction. Administer oxygen if breathing is difficult and you are trained.                                     |
| <b>Ingestion</b>          | Immediate medical attention is required. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. |
| <b>Notes to Physician</b> | Causes sensitization. May cause sensitization of susceptible persons. Keep victim under observation.  |

### 5. FIRE-FIGHTING MEASURES

|  |   |
|--|---|
| <b>Flash Point</b>   | 219 °C / 426 °F   |
| <b>Method</b>  | Closed cup  |
| <b>Suitable Extinguishing Media</b>                          | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. |
| <b>Uniform Fire Code</b>                                     | • Combustible Liquid: III-B   |
| <b>Hazardous Combustion Products</b>                         | Carbon oxides, Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ), Hydrocarbons  |
| <b>Explosion Data</b>  |   |
| <b>Sensitivity to Mechanical Impact</b>                      | Not sensitive.  |
| <b>Protective Equipment and Precautions for Firefighters</b> | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.                                    |
| <b>NFPA</b>  | <b>Health Hazard</b> 2 <b>Flammability</b> 1 <b>Stability</b> 1 <b>Physical and Chemical Hazards</b> N/A  |

### 6. ACCIDENTAL RELEASE MEASURES

|                                |   |
|--------------------------------|---|
| <b>Personal Precautions</b>    | Use personal protective equipment. Vapor protective clothing with SCBA should be worn for large spills and leaks with no fire.  |
| <b>Methods for Containment</b> | Dike far ahead of spill; use dry sand to contain the flow of material. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. |

**Methods for Cleaning Up** Take up with inert, damp, noncombustible material using clean non-sparking tools and place into loosely plastic containers for later disposal. Use personal protective equipment. Prevent product and washings from entering drains, sewers or surface water due to high toxicity to aquatic organisms.

## 7. HANDLING AND STORAGE

**Handling** Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation.

**Storage** Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name                                    | ACGIH TLV      | OSHA PEL  | NIOSH IDLH  |
|--|----------------|---|---|
| Methylene bisphenyl isocyanate (MDI)<br>101-68-8 | TWA: 0.005 ppm | Ceiling: 0.02 ppm<br>Ceiling: 0.2 mg/m <sup>3</sup> | IDLH: 75 mg/m <sup>3</sup><br>Ceiling: 0.020 ppm<br>Ceiling: 0.2 mg/m <sup>3</sup><br>TWA: 0.005 ppm<br>TWA: 0.05 mg/m <sup>3</sup> |
| Methylenediphenyl diisocyanate<br>26447-40-5     |                |   |   |

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

#### Eye/Face Protection

Safety glasses with side-shields. If splashes are likely to occur, wear.. Face-shield.

#### Skin and Body Protection

Wear protective gloves/clothing. Impervious butyl rubber gloves.

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

### Hygiene Measures

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                 |                          |                                   |                           |
|---------------------------------|--------------------------|-----------------------------------|---------------------------|
| <b>Appearance</b>               | Light yellow             | <b>Odor</b>                       | Slight                    |
| <b>Physical State</b>           | Liquid                   | <b>pH</b>                         | Not applicable            |
| <b>Flash Point</b>              | 219 °C / 426 °F          | <b>Method</b>                     | Closed cup                |
| <b>Autoignition Temperature</b> | No information available | <b>Boiling Point/Range</b>        | No information available  |
| <b>Explosion Limits</b>         | No information available | <b>Flammability Limits in Air</b> | No information available  |
| <b>Solubility</b>               | No information available | <b>Evaporation Rate</b>           | No information available  |
| <b>Vapor Pressure</b>           | No information available | <b>Vapor Density</b>              | No information available. |
| <b>Weight per Gallon (lbs)</b>  | 10                       | <b>Actual VOC (lb/gal)</b>        | 0                         |
| <b>EPA VOC (lb/gal)</b>         | 0                        | <b>EPA VOC (g/l)</b>              | 0                         |

## 10. STABILITY AND REACTIVITY

**Stability** Stable under recommended storage conditions. Decomposes slowly on exposure to water.

**Incompatible Products** Water. Alcohols. Amines. Acids. Bases.

**Conditions to Avoid** Excessive heat. Keep away from children.

**Hazardous Decomposition Products** Carbon oxides. Nitrogen oxides (NOx). Hydrocarbons.

**Hazardous Reactions** None under normal processing.

**Hazardous Polymerization** None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

| Chemical Name                        | LD50 Oral          | LD50 Dermal           | LC50 Inhalation        |
|--------------------------------------|--------------------|-----------------------|------------------------|
| Methylene bisphenyl isocyanate (MDI) | 9200 mg/kg ( Rat ) |                       |                        |
| Methylenediphenyl diisocyanate       |                    | 6200 mg/kg ( Rabbit ) | 0.369 mg/L ( Rat ) 4 h |

### Chronic Toxicity

**Chronic Toxicity** Repeated skin contact may lead to irritation and to sensitization, possible with cross-sensitization to other epoxys.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Sensitization** May cause sensitization by inhalation. May cause sensitization by skin contact.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

| Chemical Name                  | Toxicity to Algae     | Toxicity to Fish | Microtox | Daphnia Magna (Water Flea) |
|--------------------------------|-----------------------|------------------|----------|----------------------------|
| Methylenediphenyl diisocyanate | EC50 = 3230 mg/L 96 h |                  |          | EC50 > 1000 mg/L 24 h      |

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method** Dispose of contents/container in accordance with local regulation.

**Contaminated Packaging** Do not re-use empty containers. Dispose of in accordance with local regulations.

| Chemical Name                                   | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|---|--------------------------------------|------------------------|------------------------|------------------------|
| Methylene bisphenyl isocyanate (MDI) - 101-68-8 |                                      |                        |                        |                        |
| Methylenediphenyl diisocyanate - 26447-40-5     |                                      |                        |                        |                        |

## 14. TRANSPORT INFORMATION

### DOT

**Proper Shipping Name** Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)

|                                 |          |
|---------------------------------|----------|
| <b>Hazard Class</b>             | 9        |
| <b>UN-No</b>                    | 3082     |
| <b>Packing Group</b>            | III      |
| <b>Reportable Quantity (RQ)</b> | 5000 lb. |

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

|                      |          |
|----------------------|----------|
| <b>TSCA</b>          | Complies |
| <b>DSL</b>           | Complies |
| <b>EINECS/ELINCS</b> | Complies |
| <b>ENCS</b>          | Complies |
| <b>IECSC</b>         | Complies |
| <b>KECL</b>          | Complies |
| <b>PICCS</b>         | Complies |
| <b>AICS</b>          | Complies |

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name                        | CAS-No     | Weight % | SARA 313 - Threshold Values % |
|--------------------------------------|------------|----------|-------------------------------|
| Methylene bisphenyl isocyanate (MDI) | 101-68-8   | 15 - 25  | 1.0                           |
| Methylenediphenyl diisocyanate       | 26447-40-5 | 30 - 40  | 1.0                           |

#### **SARA 311/312 Hazard Categories**

|  |     |
|--|-----|
| <b>Acute Health Hazard</b>               | Yes |
| <b>Chronic Health Hazard</b>             | Yes |
| <b>Fire Hazard</b>                       | No  |
| <b>Sudden Release of Pressure Hazard</b> | No  |
| <b>Reactive Hazard</b>                   | No  |

#### **Clean Water Act**

| Chemical Name                        | CAS-No   | Weight % | HAPS data | VOC Chemicals | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|--------------------------------------|----------|----------|-----------|---------------|-------------------------|-------------------------|
| Methylene bisphenyl isocyanate (MDI) | 101-68-8 | 15 - 25  | Present   | Group III     |                         |                         |

#### **CERCLA**

| Chemical Name                        | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|--------------------------------------|--------------------------|------------------------------------|
| Methylene bisphenyl isocyanate (MDI) | 5000 lb                  |                                    |

### U.S. State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

| Chemical Name                        | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--------------------------------------|---------------|------------|--------------|----------|--------------|
| Methylene bisphenyl isocyanate (MDI) | X             | X          | X            | X        | X            |

### International Regulations

**Mexico - Grade** No information available.

| Chemical Name                        | Carcinogen Status | Exposure Limits   |
|--------------------------------------|-------------------|---|
| Methylene bisphenyl isocyanate (MDI) |                   | Mexico: TWA= 0.02 ppm<br>Mexico: TWA= 0.051 mg/m <sup>3</sup><br>Mexico: TWA= 0.005 ppm<br>Mexico: TWA= 0.2 mg/m <sup>3</sup> |

### Canada

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

#### WHMIS Hazard Class

D1A Very toxic materials

D2A Very toxic materials

D2B Toxic materials



| Chemical Name                        | NPRI |
|--------------------------------------|------|
| Methylene bisphenyl isocyanate (MDI) | X    |

### 16. OTHER INFORMATION

| NFPA | HMIS | PPE | Transport Symbol |
|------|------|-----|------------------|
|      |      |     |                  |

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**Revision Note** (M)SDS sections updated. 1. 2. 3. 5. 7. 9. 11. 13. 14. 15. 16.

**Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**