

# Polymer Technologies

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SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: SUPER CERAMIC REPAIR LIQUID HARDENER  
MSDS Manufacturer Number: MTO01H  
Manufacturer Name: ITW Polymer Technologies  
Address: 130 Commerce Drive  
Montgomeryville, PA 18936  
General Phone Number: (215) 855-8450  
Emergency Phone Number: (215) 855-8450  
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300  
Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)  
MSDS Revision Date: 10/10/2006

HMI S	
Health Hazard	3*
Fire Hazard	1
REACTIVITY	1
Personal Protection	X

\* Chronic Health Effects:

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Diethylenetriamine	111-40-0	30 - 60 by weight
Phenol, 4,4'-(1-methylethylidene)bis-	80-05-7	10 - 30 by weight
Isopropanol	67-63-0	1 - 5 by weight
Mercury	7439-97-6	1 - 5 by weight
Trade secret.	N/A	30 - 60 by weight
Cobalt	7440-48-4	1 - 5 by weight
Nickel powder	7440-02-0	1 - 5 by weight
C.I. Solvent Black 7	8005-02-5	1 - 5 by weight
Chromium	7440-47-3	1 - 5 by weight

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:** DANGER! Corrosive. Toxic. Potential Sensitizer Irritant.  
**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.  
**Potential Health Effects:**  
**Eye:** Corrosive. Will cause eye burns, permanent tissue damage, and blindness.  
**Skin:** Contact causes severe skin irritation and possible burns. may cause permanent skin damage. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.  
**Inhalation:** May cause severe respiratory system irritation. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.

Ingestion:	Harmful if swallowed. Corrosive to the gastrointestinal tract.
Chronic Health Effects:	Prolonged skin contact causes burns. Repeated or prolonged inhalation may cause toxic effects.
Signs/Symptoms:	Depending on solution concentration, material may be corrosive to skin, mucous membranes and eyes. Vapors may cause respiratory irritation.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system. Kidney. Liver. Central nervous system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

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## SECTION 4 - FIRST AID MEASURES

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Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

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## SECTION 5 - FIRE FIGHTING MEASURES

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Flash Point:	> 240° F (115.5° C)
Flash Point Method:	Closed Cup.
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO <sub>2</sub> ) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Corrosive. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Other Precautions:	Pump or shovel to storage/salvage vessels.

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## SECTION 7 - HANDLING and STORAGE

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<b>Handling:</b>	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes and skin. Do not reuse containers without proper cleaning or reconditioning.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not store in reactive metal containers. Keep away from acids, oxidizers.
<b>Special Handling Procedures:</b>	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
<b>Hygiene Practices:</b>	Wash thoroughly after handling.

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## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

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<b>Engineering Controls:</b>	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
<b>Eye/Face Protection:</b>	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
<b>Skin Protection Description:</b>	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
<b>Respiratory Protection:</b>	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
<b>Other Protective:</b>	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

### EXPOSURE GUIDELINES

#### Diethylenetriamine :

Guideline ACGIH: ACGIH TLV-TWA 1 ppm

#### Isopropanol :

Guideline ACGIH: ACGIH TLV-STEL 400 ppm

Guideline OSHA: OSHA PEL-TWA 400 ppm

#### Mercury :

Guideline ACGIH: ACGIH TLV-TWA 0.025 mg/m<sup>3</sup>

Guideline OSHA: OSHA PEL-STEL 0.1 mg/m<sup>3</sup> Ceiling/Peak

#### Cobalt :

Guideline ACGIH: ACGIH TLV-TWA 0.02 mg/m<sup>3</sup>

Guideline OSHA: OSHA PEL-TWA 0.1 mg/m<sup>3</sup>

#### Nickel powder :

Guideline ACGIH: ACGIH TLV-TWA 1.5 mg/m<sup>3</sup>

Guideline OSHA: OSHA PEL-TWA 1 mg/m<sup>3</sup>

#### Chromium :

Guideline ACGIH: ACGIH TLV-TWA 0.5 mg/m<sup>3</sup>

Guideline OSHA: OSHA PEL-STEL 0.1 mg/m<sup>3</sup> Ceiling/Peak

## Notes :

Only established PEL and TLV values for the ingredients are listed.

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**SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES**


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Physical State Appearance:	Liquid..
Color:	Dark.
Odor:	mild ammonia like.
Boiling Point:	Not determined.
Melting Point:	Not determined.
Specific Gravity:	1.0
Solubility:	completely miscible
Vapor Density:	> 1 (air = 1)
Vapor Pressure:	
Percent Volatile:	1.2
Evaporation Rate:	<
pH:	alkaline
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	> 240° F (115.5° C)
Flash Point Method:	Closed Cup.
Auto Ignition Temperature:	Not determined.
VOC Content:	Not determined.
Percent Solids by Weight	98.8

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**SECTION 10 - STABILITY and REACTIVITY**


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Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Product may slowly corrode copper, aluminum, zinc and galvanized surfaces.
Incompatible Materials:	Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**


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Diethylenetriamine :

Skin:	Skin - Rabbit Standard Draize Test. : 500 mg(RTECS) Skin - Rabbit LD50: 1090 mg/kg - [Details of toxic effects not reported other than lethal dose value. ](RTECS) Skin - Guinea pig LD50: 170 uL/kg - [Details of toxic effects not reported other than lethal dose value. ](RTECS)
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Inhalation: Inhalation. - Rat LCLo - Lowest published lethal concentration: 70 mg/m<sup>3</sup>/4H - [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Ingestion: Oral - Rat LD50: 1080 mg/kg - [oral - convulsions or effect on seizure threshold ] (RTECS)

Phenol, 4,4'-(1-methylethylidene)bis- :

Eye:	Eye - Rabbit Standard Draize Test. : 250 ug/24H - [severe](RTECS)
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**Skin:** Skin - Rabbit Standard Draize Test. : 500 mg/24H - [mild](RTECS)  
 Skin - Rabbit LD50: 3 mL/kg - [Details of toxic effects not reported other than lethal dose value. ](RTECS)  
 Skin - Human TClO - Lowest published toxic concentration: 1 pph - [Skin and Appendages - dermatitis, allergic (after topical exposure) ](RTECS)

**Inhalation:** Inhalation. - Human TClO - Lowest published toxic concentration: 20 mg/m<sup>3</sup>/1H - [Behavioral - headache Gastrointestinal - nausea or vomiting ] (RTECS)

**Ingestion:** Oral - Rat LD50: 1200 mg/kg - [Reproductive - Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated) ] (RTECS)  
 Oral - Mouse LD50: 2400 mg/kg - [Autonomic Nervous System - other (direct) parasympathomimetic oral - convulsions or effect on seizure threshold oral - ataxia ] (RTECS)  
 Oral - Mouse LD50: 2500 mg/kg - [Details of toxic effects not reported other than lethal dose value. ] (RTECS)

**Isopropanol:**

**RTECS Number:** NT8050000

**Eye:** Eye - Rabbit Standard Draize Test. : 100 mg/24H - [Moderate](RTECS)

**Skin:** Skin - Rabbit Standard Draize Test. : 500 mg - [mild](RTECS)  
 Skin - Rabbit LD50: 12800 mg/kg - [Details of toxic effects not reported other than lethal dose value. ](RTECS)

**Inhalation:** Inhalation. - Rat LC50: 72600 mg/m<sup>3</sup> - [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes ] (RTECS)  
 Inhalation. - Mouse LC50: 53000 mg/m<sup>3</sup> - [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes ] (RTECS)

**Ingestion:** Oral - Rat LD50: 5000 mg/kg - [oral - general anesthetic ] (RTECS)  
 Oral - Mouse LD50: 3600 mg/kg - [oral - altered sleep time (including change in righting reflex) oral - somnolence (general depressed activity) ] (RTECS)  
 Oral - Mouse LD50: 3600 mg/kg - [oral - general anesthetic ] (RTECS)

**Carcinogenicity:** IARC 3

**Mercury:**

**Skin:** Skin - Human man TDLo - Lowest published toxic dose: 129 mg/kg/5H-C - [Sense Organs and Special Senses (Ear) - tinnitus Behavioral - headache Skin and Appendages - dermatitis, allergic (after systemic exposure)](RTECS)

**Inhalation:** Inhalation. - Human man TClO - Lowest published toxic concentration: 5 mg/m<sup>3</sup>/3H - [Behavioral - tremor Gastrointestinal - nausea or vomiting Nutritional and Gross Metabolic - body temperature increase ] (RTECS)

**Ingestion:** Oral - Human man TDLo - Lowest published toxic dose: 43 mg/kg - [oral - tremor Liver - jaundice, other or unclassified Liver - other changes ] (RTECS)

**Cobalt:**

**Ingestion:** Oral - Rat LD50: 6171 mg/kg - [oral - somnolence (general depressed activity) oral - ataxia Gastrointestinal - hypermotility, diarrhea ] (RTECS)

**Carcinogenicity:** IARC: Group 2B: Possibly carcinogenic to humans.

**Nickel powder:**

**Ingestion:** Oral - Mouse LDLo: 500 mg/kg - [Gastrointestinal - other changes] (RTECS)

**Carcinogenicity:** IARC: Group 2B: Possibly carcinogenic to humans.  
 NTP: Reasonably anticipated to be a human carcinogen.

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## SECTION 12 - ECOLOGICAL INFORMATION

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**Ecotoxicity:** No ecotoxicity data was found for the product.

**Environmental Fate:** No environmental information found for this product.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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**Waste Disposal:** Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

**RCRA Number:** D002

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**SECTION 14 - TRANSPORT INFORMATION**

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DOT Shipping Name: Diethylenetriamine solution  
DOT UN Number: 2079  
DOT Hazard Class: 8  
DOT Packing Group: II

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**SECTION 15 - REGULATORY INFORMATION**

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Diethylenetriamine :

TSCA Inventory Status: Listed  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the Pennsylvania State Hazardous Substances List.

Phenol, 4,4'-(1-methylethylidene)bis- :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

Isopropanol :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

Mercury :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

Cobalt :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

Nickel powder :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

C.I. Solvent Black 7 :

TSCA Inventory Status: Listed

Chromium :

TSCA Inventory Status: Listed  
SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
State Regulations: Listed in the State of Massachusetts Hazardous Substance List.  
Listed in the New Jersey State Right to Know List.  
Listed in the Pennsylvania State Hazardous Substances List.

Canadian Regulations. WHMIS Hazard Class(es): D2B; E  
All components of this product are on the Canadian Domestic Substances List.

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## SECTION 16 - ADDITIONAL INFORMATION

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HMIS Fire Hazard: 1  
HMIS Health Hazard: 3\*  
HMIS Reactivity: 1  
HMIS Personal Protection: X  
MSDS Revision Date: 10/10/2006  
MSDS Author: Actio Corporation

**Disclaimer:** This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

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