



17 Shepard Street • Lawrence, MA 01843 USA  
+1.978.683.9411

[www.keypolymer.com](http://www.keypolymer.com)

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**Full Disclosure Statement - The Supplier did NOT fully disclose the formulation of this product**

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Product identifier

**Product Name** KEY PC2072/2082A

### Other means of identification

**Product Code(s)** PC2072/2082A

**Document** Tough Seal 72/82A

None

FOR INDUSTRIAL USE ONLY. This product contains isocyanates.

Restrictions on use: Do not use this product for any use other than intended

### Manufacturer Address

Key Polymer Corporation  
17 Shepard Street  
Lawrence, MA 01843, USA

**Company Phone Number** 978-683-9411 (8AM - 5PM EST) (M-F)

**Emergency Telephone** Chemtrec 1-800-424-9300 (24 Hours)

**Chemtrec International Phone** +1 703-527-3887

## 2. Hazards Identification

### Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

|  |                                |
|--|--------------------------------|
| Acute toxicity - Inhalation (Dusts/Mists)          | Category 4                     |
| Respiratory sensitization                          | Category 1                     |
| Skin sensitization                                 | Category 1                     |
| Specific target organ toxicity (single exposure)   | Category 3 (respiratory tract) |
| Specific target organ toxicity (repeated exposure) | Category 2 (lungs)             |

## Emergency Overview

### DANGER

#### Hazard statements

Harmful if inhaled

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

May cause respiratory irritation. May cause drowsiness or dizziness

May cause damage to organs through prolonged or repeated exposure



**Appearance** Viscous Amber

**Physical state** Liquid

**Odor** Slight

#### Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area  
 In case of inadequate ventilation wear respiratory protection  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Do not breathe dust, fumes, or vapors

#### Precautionary Statements - Response

Get medical advice/attention if you feel unwell  
 IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

#### Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

#### Hazards Not Otherwise Classified (HNOC)

#### Other Information

Harmful to aquatic life with long lasting effects  
 N/A

### 3. Composition/Information on Ingredients

#### Substance

| Chemical name                             | CAS No.     | Weight-%  | Trade secret |
|---|-------------|-----------|--------------|
| Homopolymer of Hexamethylene Diisocyanate | Proprietary | 90 - 100  | *            |
| 1,6-Diisocyanatohexane                    | 822-06-0    | 0.1 - 0.2 | *            |

\* The exact percentage (concentration) of composition may have been withheld as a trade secret.

### 4. First Aid Measures

#### Description of first aid measures

##### General advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

##### Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do

not rub affected area. Immediate medical attention is required.

**Skin contact**

Remove material from skin immediately. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**Ingestion**

If swallowed, call a poison control center or physician immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

**Self-protection of the first aider**

First Aider: Pay attention to self-protection. Use personal protective equipment as required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed****Symptoms**

Respiratory tract irritation and mucous membrane irritation. Symptoms include eye and nose irritation, dry or sore throat, runny nose, shortness of breath, wheezing and laryngitis. Coughing and chest pain or tightness may also occur, frequently at night. These symptoms may occur during exposure or may be delayed several hours. Exposure to isocyanates can cause difficulty breathing or asthmatic reaction. Irritation to eye tissue. Tingling, irritation or redness of the skin. If ingested, irritation of the tissues of the mouth, throat and digestive tract. Other symptoms include headache, shortness of breath, nausea, vomiting, burning sensation in the mouth, abdominal pain and vomiting. Onset of symptoms may be delayed. May cause allergic skin reaction. May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting and diarrhea.

**Indication of any immediate medical attention and special treatment needed****Note to physicians**

May cause sensitization by inhalation and skin contact. Treat symptomatically. SYMPTOMS MAY BE DELAYED.

## 5. Fire-Fighting Measures

**Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, foam, water fog or fine spray. Alcohol resistant foams are preferred for large fires. Use water spray to cool fire-exposed containers

**Unsuitable extinguishing media**

Exercise caution when using water; water contamination of product will generate CO<sub>2</sub> gas. High volume water jet.

**Specific hazards arising from the chemical**

Containers may explode when heated or if contaminated with water. Keep cool with water. React vigorously and/or explosively with water.

**Hazardous combustion products**

Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

Firefighters should wear full protective gear including self-contained breathing apparatus when fighting chemical fires. Fight fire from protected location or a safe distance. When using water care must be taken since the reaction between water and hot isocyanates can be vigorous.

## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Use personal protection recommended in Section 8. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Extremely slippery when spilled. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

### Environmental precautions

**Environmental precautions** Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. Handling and Storage

### Precautions for safe handling

**Advice on safe handling** Do not breathe dust, fumes, or vapors. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not use with incompatible materials such as amines, alcohols, acids, bases, metal compounds, surfactants and water which may react vigorously and/or violently. Do not eat, drink or smoke when using this product. Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Protect from direct sunlight. Protect from moisture. Do not reuse container.

**Incompatible materials** Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

## 8. Exposure Controls/Personal Protection

### Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

| Chemical name                      | ACGIH TLV      | OSHA PEL | NIOSH IDLH   |
|------------------------------------|----------------|----------|--|
| 1,6-Diisocyanatohexane<br>822-06-0 | TWA: 0.005 ppm | -        | Ceiling: 0.020 ppm 10 min<br>Ceiling: 0.140 mg/m <sup>3</sup> 10 min<br>TWA: 0.005 ppm<br>TWA: 0.035 mg/m <sup>3</sup> |

### Appropriate engineering controls

**Engineering controls** Local exhaust ventilation may be necessary when operations generate airborne concentrations of this material. If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Individual protection measures, such as personal protective equipment**

|                                       |   |
|---------------------------------------|---|
| <b>Eye/face protection</b>            | Wear safety glasses with side shields (or goggles). Face protection shield.   |
| <b>Skin and body protection</b>       | Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear protective nitrile rubber gloves.   |
| <b>Respiratory protection</b>         | 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. |
| <b>General hygiene considerations</b> | Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse.   |

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

|                       |         |                       |        |
|-----------------------|---------|-----------------------|--------|
| <b>Physical state</b> | Liquid  | <b>Odor</b>           | Slight |
| <b>Appearance</b>     | Viscous | <b>Odor threshold</b> | N/A    |
| <b>Color</b>          | Amber   |                       |        |

| <u>Property</u>                | <u>Values</u>      | <u>Remarks • Method</u> |
|--------------------------------|--------------------|-------------------------|
| pH                             | N/A                |                         |
| Melting point / freezing point | N/A                |                         |
| Boiling point / boiling range  | > 200 °C           |                         |
| Flash point                    | > 220 °C           |                         |
| Evaporation rate               | N/A                |                         |
| Flammability (solid, gas)      | N/A                |                         |
| Flammability Limit in Air      |                    |                         |
| Upper flammability limit:      | N/A                |                         |
| Lower flammability limit:      | N/A                |                         |
| Vapor pressure                 | 10-4 mmHg @ 40°C   |                         |
| Vapor density                  | N/A                |                         |
| Relative density               | 1.16               |                         |
| Water solubility               | Insoluble in water |                         |
| Solubility in other solvents   | N/A                |                         |
| Partition coefficient          | N/A                |                         |
| Autoignition temperature       | 460 °C             |                         |
| Decomposition temperature      | N/A                |                         |
| Kinematic viscosity            | N/A                |                         |
| Dynamic viscosity              | N/A                |                         |
| Explosive properties           | N/A                |                         |
| Oxidizing properties           | N/A                |                         |

**Other Information**

|                         |                    |
|-------------------------|--------------------|
| <b>Softening point</b>  | N/A                |
| <b>Molecular weight</b> | N/A                |
| <b>VOC Content (%)</b>  | N/A                |
| <b>Liquid Density</b>   | 9.66 pounds/gallon |
| <b>Bulk density</b>     | N/A                |

**10. Stability and Reactivity****Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

Polymeric MDI may undergo uncontrolled exothermic polymerization upon contact with incompatible materials or if heated above 170-204°C. The resulting pressure build up could rupture closed containers. May cause some corrosion to copper alloys and aluminum.

**Conditions to avoid**

Avoid moisture. Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Incompatible materials**

Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

**Hazardous decomposition products**

Carbon monoxide, Carbon Dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Hydrogen cyanide, Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

## 11. Toxicological Information

**Information on likely routes of exposure**

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Persons with preexisting lung conditions can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or symptoms. Exposures well above the limits may lead to bronchitis, bronchial spasm and pulmonary edema. Symptoms may be delayed for several hours. |
| <b>Eye contact</b>  | May cause irritation.  |
| <b>Skin contact</b> | May cause irritation. Isocyanates can cause skin discoloration (staining) and hardening of the skin after repeated exposures. Skin sensitization, resulting in dermatitis, may occur in some individuals. Cured material may be difficult to remove from skin.   |
| <b>Ingestion</b>    | Not an expected route of exposure. Swallowing may result in irritation and corrosion of the mouth, throat and digestive tract.   |

| Chemical name                             | ATEmix (oral)       | ATEmix (dermal)        | Inhalation LC50                       |
|---|---------------------|------------------------|---------------------------------------|
| Homopolymer of Hexamethylene Diisocyanate | -                   | -                      | = 18500 mg/m <sup>3</sup> ( Rat ) 1 h |
| 1,6-Diisocyanatohexane<br>822-06-0        | = 710 µL/kg ( Rat ) | = 593 mg/kg ( Rabbit ) | = 0.06 mg/L ( Rat ) 4 h               |

**Information on toxicological effects**

N/A.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Irritating to skin.   |
| <b>Serious eye damage/eye irritation</b> | Vapors from heating may cause eye irritation. Not classified as an eye irritant.                        |
| <b>Irritation</b>                        | Irritating to respiratory system and skin.  |
| <b>Sensitization</b>                     | May cause sensitization by inhalation and skin contact. Isocyanates are known to be strong sensitizers. |
| <b>Germ cell mutagenicity</b>            | N/A.  |
| <b>Carcinogenicity</b>                   | This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.  |
| <b>Reproductive toxicity</b>             | N/A.  |
| <b>STOT - single exposure</b>            | May cause disorder and damage to the. Respiratory System.   |
| <b>STOT - repeated exposure</b>          | Causes damage to organs through prolonged or repeated exposure if inhaled. May cause                    |

**Target organ effects** disorder and damage to the. Respiratory System.  
**Aspiration hazard** Respiratory System.  
 N/A.

### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document  
 ATEmix (inhalation-dust/mist) 4.59 mg/l

## 12. Ecological Information

### Ecotoxicity

N/A

99.8 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical name                      | Algae/aquatic plants | Fish   | Crustacea |
|------------------------------------|----------------------|--|-----------|
| 1,6-Diisocyanatohexane<br>822-06-0 |                      | 26.1: 96 h Brachydanio rerio mg/L<br>LC50 static |           |

### Persistence and degradability

N/A

### Other adverse effects

N/A

## 13. Disposal Considerations

### Waste treatment methods

**Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Do not reuse container.

## 14. Transport Information

**DOT** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

## 15. Regulatory Information

### International Inventories

#### **TSCA**

All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

### Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any 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 % |
|-----------------------------------|----------|-----------|-------------------------------|
| 1,6-Diisocyanatohexane - 822-06-0 | 822-06-0 | 0.1 - 0.2 | 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>                   | Yes |

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

| Chemical name                      | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                  |
|------------------------------------|--------------------------|----------------|---|
| 1,6-Diisocyanatohexane<br>822-06-0 | 100 lb                   |                | RQ 100 lb final RQ<br>RQ 45.4 kg final RQ |

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Chemical name                      | New Jersey | Massachusetts | Pennsylvania |
|------------------------------------|------------|---------------|--------------|
| 1,6-Diisocyanatohexane<br>822-06-0 | X          | X             |              |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other Information**

|                                   |                                  |                       |                           |   |
|-----------------------------------|----------------------------------|-----------------------|---------------------------|---|
| <b>NFPA</b>                       | <b>Health hazards</b> 2          | <b>Flammability</b> 1 | <b>Instability</b> 1      | <b>Physical and chemical properties -</b> |
| <b>HMIS</b>                       | <b>Health hazards</b> 2*         | <b>Flammability</b> 1 | <b>Physical hazards</b> 1 | <b>Personal Protection</b> X              |
| <i>Chronic Hazard Star Legend</i> | <i>* = Chronic Health Hazard</i> |                       |                           |   |

|                      |                             |
|----------------------|-----------------------------|
| <b>Prepared By</b>   | Key Polymer Corp Compliance |
| <b>Issuing Date</b>  | 14-Jul-2015                 |
| <b>Revision Date</b> | 08-Feb-2017                 |

**Revision Note**

N/A

**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief



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at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

**End of Safety Data Sheet**