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www.keypolymer.com

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Revision Number 4

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

Product identifier

Product Name KEY PC2041B

Other means of identification

Product Code(s) PC2041B
Product Technology Epoxy B side
Document Tough-Seal 41 B

None

Curing chemical. FOR INDUSTRIAL USE ONLY.

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 - Dermal

Category 4

Emergency Overview

WARNING

Hazard statements

Harmful in contact with skin



Appearance Opaque Black	Physical state Liquid	Odor None
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Precautionary Statements - Prevention

Wear protective gloves, protective clothing, eye protection, face protection

Precautionary Statements - Response

Call a POISON CENTER or doctor/physician if you feel unwell
 IF ON SKIN: Wash with plenty of soap and water
 Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

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

Hazards Not Otherwise Classified (HNOC)**Other Information**

May be harmful if swallowed, Causes mild skin irritation, Harmful to aquatic life with long lasting effects
 97.6684001% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Chemical name	CAS No.	Weight-%	Trade secret
Aluminium hydroxide	21645-51-2	35 - 45	*
Tris(dimethylaminomethyl)phenol	90-72-2	1 - 5	*
Carbon Black	1333-86-4	0.1 - 0.9	*

* 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**

Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. 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. Call a physician if irritation persists.

Skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician. Wash contaminated clothing before reuse.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Administer oxygen if breathing is difficult. If symptoms persist, call a physician.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

Self-protection of the first aider

First Aider: Pay attention to self-protection. Ensure that medical personnel are aware of the

material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Foam, Dry chemical or CO2

Unsuitable extinguishing media Water reactive.

Specific hazards arising from the chemical

Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

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

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Other Information Use personal protective equipment as required.

For Emergency Responders Use personal protective equipment as required.

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 Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Acids. Bases. Water. Strong oxidizing agents. Copper. Aluminum. Zinc.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminium hydroxide 21645-51-2	TWA: 1 mg/m ³ respirable particulate matter	-	-
Carbon Black 1333-86-4	TWA: 3 mg/m ³ inhalable particulate matter	TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Splash Goggles. Avoid contact with eyes.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection 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.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid	Odor	None
Appearance	Opaque	Odor threshold	N/A
Color	Black		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	N/A	
Melting point / freezing point	N/A	
Boiling point / boiling range	> 100 °C	
Flash point	> 100 °C	CC (closed cup)
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	N/A	

Vapor density	N/A
Relative density	1.429
Water solubility	Slightly soluble
Solubility in other solvents	N/A
Partition coefficient	N/A
Autoignition temperature	N/A
Decomposition temperature	N/A
Kinematic viscosity	N/A
Dynamic viscosity	N/A
Explosive properties	N/A
Oxidizing properties	N/A

Other Information

Softening point	N/A
Molecular weight	N/A
VOC Content (%)	N/A
Liquid Density	11.9 pounds/gallon
Bulk density	N/A

10. Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Keep out of reach of children. Avoid moisture. Incompatible materials. Excessive heat.

Incompatible materials

Acids. Bases. Water. Strong oxidizing agents. Copper. Aluminum. Zinc.

Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Ammonia. Nitric acid. Halogenated compounds. Hydrogen chloride. Hydrocarbons. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological Information

Information on likely routes of exposure

Product Information	The product has not been tested
Inhalation	Remove to fresh air.
Eye contact	Avoid contact with eyes. May cause irritation.
Skin contact	Avoid contact with skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Do NOT taste or swallow. Not an expected route of exposure. Harmful if swallowed.
Component Information	Caution - substance not yet tested completely

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Aluminium hydroxide 21645-51-2	> 5000 mg/kg (Rat)	-	-
Tris(dimethylaminomethyl)phenol 90-72-2	= 1200 mg/kg (Rat)	= 1280 mg/kg (Rat)	-
Carbon Black 1333-86-4	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-

Information on toxicological effects

N/A.

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

Skin corrosion/irritation	Repeated or prolonged contact may cause skin irritation and dermatitis.
Irritation	May cause skin and eye irritation. May cause irritation of respiratory tract.
Sensitization	N/A.
Germ cell mutagenicity	N/A.
Carcinogenicity	Carbon Black (CAS 1333-86-4) poses extremely low respirable carcinogenic risk when encapsulated in a polymeric liquid. If sanding or grinding cured product, wear appropriate personal protective equipment for respirable dust hazards.

Chemical name	ACGIH	IARC	NTP	OSHA
Carbon Black 1333-86-4	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity	N/A.
STOT - single exposure	N/A.
STOT - repeated exposure	N/A.
Aspiration hazard	N/A.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 97.6684001% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3,268.00 mg/kg

ATEmix (dermal) 1,473.00 mg/kg

12. Ecological Information

Ecotoxicity

Harmful to aquatic life with long lasting effects

90.44163 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
Carbon Black 1333-86-4			5600: 24 h Daphnia magna mg/L EC50

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

<u>DOT</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	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

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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

US State Regulations

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Carbon Black - 1333-86-4	Carcinogen
Methanol - 67-56-1	Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Carbon Black 1333-86-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

NFPA	Health hazards N/A	Flammability N/A	Instability N/A	Physical and chemical properties -
HMIS	Health hazards 2	Flammability 1	Physical hazards 0	Personal Protection X

Prepared By Key Polymer Corp Compliance
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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 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