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Issuing Date 20-Nov-2014

Revision Date 09-Dec-2015

Revision Number 2

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

Product identifier

Product Name KEY PC2021B/PC2022B

Other means of identification

Product Code(s) PC2021B/PC2022B

Product Technology Epoxy B side

Document Tough-Seal 22B

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 - Oral	Category 4
Acute toxicity - Dermal	Category 4

Emergency Overview

WARNING

Hazard statements

Harmful if swallowed

Harmful in contact with skin

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

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 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
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

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**

Causes mild skin irritation, Harmful to aquatic life with long lasting effects
 90.66% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance**Chemical Family** Epoxy B Side

Chemical name	CAS No.	Weight-%	Trade secret
Calcium carbonate	1317-65-3	20 - 40	*
Proprietary amine curing agent	Proprietary	5 - 10	*
Carbon Black	1333-86-4	0.1 - 3	*
Silicon dioxide	14808-60-7	0.1 - 0.5	*

Calcium carbonate, when encapsulated in a polymer, is not expected to pose a respirable health hazard when processed under normal conditions of use.

* 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 N/A.

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, Carbon Dioxide (CO₂).

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

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. 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, Strong oxidizing agents, Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

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
Calcium carbonate 1317-65-3	-	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Carbon Black 1333-86-4	TWA: 3 mg/m ³ inhalable fraction	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
Silicon dioxide 14808-60-7	TWA: 0.025 mg/m ³ respirable fraction	(vacated) TWA: 0.1 mg/m ³ respirable dust : (30)/(%SiO ₂ + 2) mg/m ³ TWA total dust : (250)/(%SiO ₂ + 5) mppcf TWA respirable fraction : (10)/(%SiO ₂ + 2) mg/m ³ TWA respirable fraction	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust

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	133 °C	Setaflash Closed Tester
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	1.285	
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	10.7 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

Hazardous polymerization does not occur.

Conditions to avoid

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

Incompatible materials

Acids, Bases, Strong oxidizing agents, Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NOx), Nitric acid, Ammonia, May emit toxic fumes under fire conditions.

11. Toxicological Information

Information on likely routes of exposure

Product Information	The product has not been tested.
Inhalation	Remove to fresh air. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Eye contact	Avoid contact with eyes. Contact with eyes may cause irritation.
Skin contact	Avoid contact with skin. Irritating to skin.
Ingestion	Do NOT taste or swallow. Not an expected route of exposure. Harmful if swallowed.
Component Information	Caution - This preparation contains a substance not yet fully tested

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Proprietary amine curing agent	= 1200 mg/kg (Rat)	= 1280 mg/kg (Rat)	-
Carbon Black 1333-86-4	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-
Silicon dioxide 14808-60-7	= 500 mg/kg (Rat)	-	-

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 irritation of respiratory tract. May cause skin and eye irritation.
Sensitization	N/A.
Germ cell mutagenicity	N/A.
Carcinogenicity	Silicon Dioxide (CAS 14808-60-7) is a naturally occurring substance that poses low respirable carcinogen risk when encapsulated in a polymeric liquid. If sanding or grinding finished product, wear appropriate personal protective equipment for respirable dust hazards. 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
Silicon dioxide 14808-60-7	A2	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

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 90.66% 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) 1,835.00 mg/kg

ATEmix (dermal) 1,852.00 mg/kg

12. Ecological Information

Ecotoxicity

N/A

99.987 % 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

Ozone depletion potential (ODP) 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 Proper shipping name	Not regulated Non-Regulated Adhesive, class 60
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.
IECSC	All components are listed or exempted.
AICS	All components are listed or exempted.

Legend:

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

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

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

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	No
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
Silicon dioxide - 14808-60-7	Carcinogen
Methanol - 67-56-1	Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Calcium carbonate 1317-65-3	X	X	X
Carbon Black 1333-86-4	X	X	X
Silicon dioxide 14808-60-7	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 - Personal Protection X
HMIS	Health hazards 2	Flammability 1	Physical hazards 0	

Prepared By Key Polymer Corp Compliance
 Issuing Date 20-Nov-2014
 Revision Date 09-Dec-2015

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