SAFETY DATA SHEET

17 Shepard Street • Lawrence, MA 01843 USA
+1.978.683.9411
www.keypolymer.com

Issuing Date 25-Nov-2014 **Revision Date** 11-Dec-2015 **Revision Number** 8

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

Product identifier
Product Name KEY PC2024A

Other means of identification
Product Code(s) PC2024A
Product Technology Epoxy A side
Document Tough-Seal 24A
None
Epoxy A side. 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 - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

Emergency Overview

DANGER

Hazard statements
Harmful if inhaled
Causes skin irritation

Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing genetic defects
May damage fertility or the unborn child
Causes damage to organs through prolonged or repeated exposure (thymus)



Appearance Opaque White **Physical state** Liquid **Odor** None

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust, fumes, or vapors
Do not eat, drink or smoke when using this product
Wear protective gloves, protective clothing, eye protection, face protection

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Precautionary Statements - Storage
Store locked up
Please see Product Information Bulletin (PIB) for shelf life and storage information.

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, Toxic to aquatic life with long lasting effects
25.74% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Chemical Family Epoxy A Side
Chemical nature Epoxy resin mixture.

Chemical name	CAS No.	Weight-%	Trade secret

Bisphenol A diglycidyl ether resin	25068-38-6	50 - 70	*
Calcium carbonate	1317-65-3	20 - 30	*
Proprietary epoxy resin	Proprietary	1 - 10	*
Dibutyltin dilaurate	77-58-7	1	*
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. If eye irritation persists: Get medical advice/attention.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. 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.

Ingestion Not an expected route of exposure. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Self-protection of the first aider First Aider: Pay attention to self-protection. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Use CO_2, dry chemical, or foam.

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

Specific hazards arising from the chemical

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 Ventilate affected area. Extremely slippery when spilled.

Other Information Use personal protective equipment as required.

For Emergency Responders Use personal protective equipment as required.

Environmental precautions

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

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. Store and handle away from heat, flames and oxidizing materials.

Incompatible materials Strong oxidizing agents, Strong acids, Strong bases.

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/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Dibutyltin dilaurate 77-58-7	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn (vacated) TWA: 0.1 mg/m³ Sn (vacated) S*	IDLH: 25 mg/m³ Sn TWA: 0.1 mg/m³ except Cyhexatin Sn
Silicon dioxide 14808-60-7	TWA: 0.025 mg/m³ respirable fraction	(vacated) TWA: 0.1 mg/m³ respirable dust : (30)/(%SiO2 + 2) mg/m³ TWA total dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m³ TWA respirable fraction	IDLH: 50 mg/m³ respirable dust TWA: 0.05 mg/m³ 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.

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		
Appearance	Opaque	**Odor**	None
Color	White	**Odor threshold**	N/A

Property	**Values**	**Remarks • Method**
pH	N/A	
Melting point / freezing point	N/A	
Boiling point / boiling range	> 200 °C	
Flash point	> 203 °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	1.333	
Water solubility	Negligible	
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	Not an explosive	
Oxidizing properties	N/A	

Other Information

Softening point	N/A
Molecular weight	N/A
VOC Content (%)	N/A
Liquid Density	11.04 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.
Hazardous polymerization None under normal processing.

Conditions to avoid
Keep out of reach of children. Extremes of temperature and direct sunlight. Mixture with or exposure to incompatible materials.
Incompatible materials
Strong oxidizing agents, Strong acids, Strong bases.
Hazardous decomposition products
Carbon monoxide, Carbon Dioxide (CO2), Aldehydes, Aromatic hydrocarbons, 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. Harmful by inhalation.

Eye contact Vapor may cause irritation. Avoid contact with eyes. Severely irritating to eyes.

Skin contact Avoid contact with skin. Irritating to skin. May cause sensitization by skin contact.

Ingestion Not an expected route of exposure. Harmful if swallowed.

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Bisphenol A diglycidyl ether resin 25068-38-6	= 11400 mg/kg (Rat)	-	-
Proprietary epoxy resin	= 17100 mg/kg (Rat)	-	-
Dibutyltin dilaurate 77-58-7	= 175 mg/kg (Rat) = 45 mg/kg (Rat)	= 630 mg/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 Irritating to skin.
Serious eye damage/eye irritation Irritating to eyes.
Irritation Irritating to eyes and skin.
Sensitization May cause sensitization of susceptible persons.
Germ cell mutagenicity May cause genetic defects.
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.

Chemical name	ACGIH	IARC	NTP	OSHA
Silicon dioxide 14808-60-7	A2	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - 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 May cause harm to the unborn child. May impair fertility.

STOT - single exposure N/A.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. thymus.
Chronic Toxicity Repeated skin contact may lead to irritation and to sensitization, possible with cross-sensitization to other epoxies.
Aspiration hazard N/A.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 25.74% 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) 2,623.00 mg/kg
ATEmix (dermal) 46,784.00 mg/kg
ATEmix (inhalation-dust/mist) 3.72 mg/l

12. Ecological Information

Ecotoxicity

N/A
32.485 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
Dibutyltin dilaurate 77-58-7		2: 48 h Oryzias latipes mg/L LC50	

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.

Chemical name	California Hazardous Waste Status
Dibutyltin dilaurate 77-58-7	Toxic

14. Transport Information

Note: A197 - Not restricted provided that the net quantity in any receptacle does not exceed 5 Kg or 5 L and the packaging meets defined standards.

DOT Not regulated

ICAO (air)
UN/ID no. UN3082
Proper shipping name Environmentally Hazardous Substance N.O.S. (Bisphenol A epoxy resin)
Hazard Class 9
Packing Group III

IATA
UN/ID no. UN3082
Proper shipping name Environmentally Hazardous substance Liquid N.O.S. (Bisphenol A epoxy resin)
Hazard Class 9

Packing Group	III

IMDG

UN/ID no.	UN3082
Proper shipping name	Environmentally Hazardous Substance Liquid N.O.S. (Bisphenol A epoxy resin)
Hazard Class	9
Packing Group	III
Special Provisions	IMDG code 2.9.3
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

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.

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

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	Yes
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
Silicon dioxide - 14808-60-7	Carcinogen

Glycidyl phenyl ether - 122-60-1	Carcinogen Male Reproductive

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Calcium carbonate 1317-65-3	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** -

HMIS **Health hazards** 2* **Flammability** 1 **Physical hazards** 0 **Personal Protection** X

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Prepared By Key Polymer Corp Compliance
Issuing Date 25-Nov-2014
Revision Date 11-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