SAFETY DATA SHEET

445/446 Waterbourne Urethane Finishcoat Hardener Part B

Printed: 07/06/2021
Revision: 07/06/2021
Supersedes Revision: 11/08/2016

1. Product and Company Identification

Product Code: 445/446-RCB

Product Name: 445/446 Waterbourne Urethane Finishcoat Hardener Part B

Company Name: Key Resin / Flowcrete
4050 Clough Woods Dr.
Batavia, OH 45103

Phone Number:
+1 (513)943-4225

Emergency Contact: Chemtrec (USA) (800)424-9300
Chemtrec (International) +1 (703)527-3887

Intended Use: Industrial floor coatings.

2. Hazards Identification

Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2A
Respiratory Sensitization, Category 1
Acute Toxicity: Inhalation, Category 4
Specific Target Organ Toxicity (repeated exposure), Category 2
Specific Target Organ Toxicity (single exposure), Category 3

Danger **Warning**

GHS Hazard Phrases:
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H332 - Harmful if inhaled.
H373 - May cause damage to lungs through prolonged or repeated exposure.
H335 - May cause respiratory irritation.

GHS Precaution Phrases:
P262 - Do not get in eyes, on skin, or on clothing.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P285 - In case of inadequate ventilation wear respiratory protection.

GHS Response Phrases:
P302+352 - IF ON SKIN: Wash with plenty of soap and water. P332+313 - If skin irritation occurs, get medical advice/attention. P362 - Take off contaminated clothing.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+313 - If eye irritation persists, get medical advice/attention.
P304+341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. P342+311 - If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P313 - Get medical advice/attention.

GHS Storage and Disposal Phrases:
P501 - Dispose of contents/container to local, state, and federal authority requirements.
P402+404 - Store in a dry place and/or in closed container.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic): May cause sensitization. Moderate irritant.

Inhalation: May cause respiratory tract irritation. May cause sensitization by inhalation. May cause allergic respiratory reaction.

Skin Contact: Causes skin irritation. May cause sensitization by skin contact.

Eye Contact: Causes eye irritation.

Ingestion: May be harmful if swallowed.

Medical Conditions Generally Aggravated By Exposure: Skin disorders, Respiratory disorders, Eye disorders, Skin Allergies.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration	
28182-81-2	Poly(hexamethylene diisocyanate)	60 - 100 %	
666723-27-9	Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolym	15 - 25 %	
98-94-2	Dimethylcyclohexyl amine	0.10 - 1.0 %	

4. First Aid Measures

Emergency and First Aid Procedures: Use first aid treatment according to the nature of the injury. Keep victim under observation. Get immediate medical advice/attention.

In Case of Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If experiencing respiratory symptoms: Get medical attention immediately.

In Case of Skin Contact: In case of contact, immediately wash skin with soap and copious amounts of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists.

In Case of Eye Contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

In Case of Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting. For further assistance, contact your local Poison Control Center.

Signs and Symptoms Of Exposure: Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactons including wheezing, shortness of breath and difficulty breathing.

5. Fire Fighting Measures

Flash Pt: ~ 365.00 F (185.0 C)

Explosive Limits: LEL: NE UEL: NE

Autoignition Pt: No data.

Suitable Extinguishing Media: CO2, dry chemical, dry sand, alcohol-resistant foam. Use water spray to cool unopened containers.

Unsuitable Extinguishing Media: Do not use water because of violent reaction.

Fire Fighting Instructions: Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Flammable Properties and Hazards: Product is not considered a fire hazard. Closed containers may rupture (due to build up in pressure) when exposed to extreme heat.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures: Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Where splashing is possible, full chemically resistant protective clothing, and boots are required.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas.

Steps To Be Taken In Case Material Is Released Or Spilled: PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL.
Ventilate the area. Dike far ahead of spill; use dry sand to contain the flow of material. Shovel into open container. Do not close container tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

7. Handling and Storage

Precautions To Be Taken in Handling: Provide adequate ventilation. Do not breathe vapor. Do not get in eyes, on skin or on clothing.

Precautions To Be Taken in Storing: Keep container tightly closed in a dry and well-ventilated place. Protect from moisture. Store away from incompatible material. Keep from freezing.

Other Precautions: Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
28182-81-2	Poly(hexamethylene diisocyanate)	No data.	No data.	No data.
666723-27-9	Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolym	No data.	No data.	No data.
98-94-2	Dimethylcyclohexyl amine	No data.	No data.	No data.

Respiratory Equipment (Specify Type): A NIOSH/MSHA 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.

Eye Protection: Safety glasses, or goggles.

Protective Gloves: Nitrile rubber and Neoprene are recommended.

Other Protective Clothing: Where splashing is possible, full chemically resistant protective clothing, safety glasses or face shield and boots are required.

Engineering Controls (Ventilation etc.): Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Good general ventilation should be sufficient to control airborne levels. Safety shower and eye bath.

Work/Hygienic/Maintenance Practices: Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Environmental Exposure Controls: Avoid runoff into storm sewers and ditches which lead to waterways. May be hazardous to the environment if released in large quantities.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Clear. Slight odor. Appearance: Light. Yellowish.
Melting Point:	NE
Boiling Point:	~ 355.00 F (179.4 C)
Decomposition Temperature:	~ 355.00 F (179.4 C)
Autoignition Pt:	No data.
Flash Pt:	~ 365.00 F (185.0 C)
Explosive Limits:	LEL: NE UEL: NE
Specific Gravity (Water = 1):	~ 1.15
Density:	~ 9.6 LB/GL
Vapor Pressure (vs. Air or mm Hg):	NE
Vapor Density (vs. Air = 1):	NE
Evaporation Rate:	NE
Solubility in Water:	nil
Solubility Notes:	Insoluble. Reacts with water.
Saturated Vapor Concentration:	NE
Percent Volatile:	0.0 % by volume.
VOC / Volume:	NP

10. Stability and Reactivity

Reactivity:	Avoid: acids, amines, alcohols, water, alkalines, strong bases. Reacts with water, with formation of carbon dioxide. Copper alloys.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Moisture. Extreme temperatures.
Incompatibility - Materials To Avoid:	Avoid: acids, amines, alcohols, water, alkalines, strong bases. Copper alloys.
Hazardous Decomposition Or Byproducts:	Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, Hydrogen cyanide, aromatic isocyanates, gases/vapors. Isocyanates.
Possibility of Hazardous Polymerization:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	Will not undergo hazardous polymerization in normal storage conditions.

11. Toxicological Information

Toxicological Information:	May cause sensitization by skin contact. The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonarysensitization (allergic asthma) to isocyanates, further exposure is not recommended.
Irritation or Corrosion:	Respiratory or skin sensitization. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering.
Symptoms related to Toxicological Characteristics:	The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonarysensitization (allergic asthma) to isocyanates, further exposure is not recommended.
Sensitization:	Assessment of sensitization: The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible. Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.
Chronic Toxicological Effects:	May cause sensitization by skin contact. May cause sensitization by inhalation. The substance may cause damage to the olfactory epithelium after repeated inhalation.
Carcinogenicity/Other Information:	Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans atoccupational levels of exposure. Experimental/calculated data: OECD Guideline 453 rat Inhalation 0, 0.2, 1, 6 mg/m3 Result: Lung tumors.

12. Ecological Information

General Ecological Information:	Avoid release to the environment. May be hazardous to the environment if released in large quantities.
Results of PBT and vPvB assessment:	No data available.
Persistence and Degradability:	Poor Degradability.
Bioaccumulative Potential:	Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate : 0 %, not readily degradable. Homopolymer of Hexamethylene Diisocyanate: 0 %, Exposure time: 28 Days, Not readily biodegradable. N,N-dimethylcyclohexylamine: Aerobic, > 70 %, Exposure time: 28 Days.
Mobility in Soil:	Adsorption to solid soil phase is not expected.

13. Disposal Considerations

Waste Disposal Method: Dispose of this product, product solutions and its container according to federal, state and local authority requirements. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum. Avoid release to the environment.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:
Precautionary Label: May cause skin, eye, and respiratory irritation. May cause sensitization by inhalation and skin contact. Always read Safety Material Data Sheet before use.

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.
UN Number:
Packing Group:
Hazard Class:
IMDG MFAG Number:
IMDG EMS Page: No

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
28182-81-2	Poly(hexamethylene diisocyanate)	No	No	No
666723-27-9	Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolym	No	No	No
98-94-2	Dimethylcyclohexyl amine	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard
[X] Yes [ ] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

16. Other Information

Revision Date: 07/06/2021

Hazard Rating System:

HMIS:

HEALTH	2
FLAMMABILITY	1
PHYSICAL	1
PPE	X

Additional Information About This Product: CA=CIRCA NA=NOT AVAILABLE NE=NOT ESTABLISHED NR=NOT REGULATED NP= NOT APPLICABLE PR=PROPRIETARY TS=TRADE SECRET ?=UNKNOWN.

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