

450 Urethane Topcoat Hardener - Part B

Printed: 01/26/2021

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Supersedes Revision: 01/03/2017

1. Product and Company Identification

Product Code: 450-RCB

Product Name: 450 Urethane Topcoat Hardener - Part B

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

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

Intended Use: Industrial Maintenance Coatings

Phone Number: +1 (513)943-4225

2. Hazards Identification

Flammable Liquids, Category 3

Acute Toxicity: Inhalation, Category 4

Serious Eye Damage/Eye Irritation, Category 2A

Skin Sensitization, Category 1

Specific Target Organ Toxicity (single exposure), Category 3

Carcinogenicity, Category 2



Warning



Warning



Warning

GHS Hazard Phrases:

H226 - Flammable liquid and vapor.
H332 - Harmful if inhaled.
H319 - Causes serious eye irritation.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
H351 - Suspected of causing cancer ..

GHS Precaution Phrases:

P233 - Keep container tightly closed.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 - Wear permeation resistant gloves and clothing.
P280 - Wear eye and face protection.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/and equipment.
P243 - Take precautionary measures against static discharge.
P242 - Use only non-sparking tools.
P271 - Use only outdoors or in a well-ventilated area.
P261 - Avoid breathing dust/gas/mist/vapors/spray.
P264 - Wash skin and face thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.

GHS Response Phrases:

P370+378 - In case of fire, use dry chemical, carbon dioxide (CO₂), foam to extinguish.
P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P332+313 - If skin irritation occurs, get medical advice/attention. P363 - Wash contaminated clothing before reuse.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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

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	persists, get medical advice/attention. P308+313 - IF exposed or concerned: Get medical attention/advice. P312 - Call a doctor or emergency medical facility (i.e. 911) if you feel unwell. P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P313 - Get medical advice/attention.
GHS Storage and Disposal Phrases:	P403+235 - Store in cool/well-ventilated place. P501 - Dispose of contents/container to local, state, and federal authority requirements. P401 - Store: container tightly closed. P405 - Store locked up.
OSHA Regulatory Status:	This material is classified as hazardous under OSHA regulations.
Potential Health Effects (Acute and Chronic):	May cause skin, eye, and respiratory irritation. May cause skin sensitization. May cause respiratory sensitization.
Inhalation:	May cause respiratory irritation. May cause allergic respiratory reaction.
Skin Contact:	May cause skin irritation. May cause allergic skin reaction.
Eye Contact:	Substance causes moderate 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 - 90 %	
123-86-4	Butyl acetate	5.0 - 20 %	
1330-20-7	Xylene	5.0 - 15 %	
100-41-4	Ethyl Benzene	1.0 - 5.0 %	

4. First Aid Measures

Emergency and First Aid Procedures:	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use first aid treatment according to the nature of the injury.
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:	Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.
Signs and Symptoms Of Exposure:	May cause allergic skin reaction. May cause rash on skin, and redness in eyes. May cause coughing by inhalation of a mist or spray. If material is heated, sprayed, vapors from this material can produce asthmatic sensitization to the respiratory system.

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5. Fire Fighting Measures

Flash Pt:	~ 91.00 F (32.8 C) Method Used: Closed Cup
Explosive Limits:	LEL: NE UEL: NE
Autoignition Pt:	752.00 F (400.0 C)
Suitable Extinguishing Media:	Dry chemical or CO2. Foam.
Unsuitable Extinguishing Media:	Reacts with water, with formation of carbon dioxide.
Fire Fighting Instructions:	Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Flammable Properties and Hazards:	Closed container 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. Absorb with sand or vermiculite and place in closed containers for disposal. Ventilate the area.

7. Handling and Storage

Precautions To Be Taken in Handling:	Wear all personal protection required. Wash thoroughly after handling. Provide adequate ventilation. Do not breathe vapor. Do not get in eyes, on skin or on clothing.
Precautions To Be Taken in Storing:	Protect from moisture. Purge container with nitrogen before resealing. Keep dry. Store in cool/well-ventilated place. Store away from incompatible material.
Other Precautions:	Keep away from sources of ignition - No smoking. Keep away from heat, sparks, and flame.

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.
123-86-4	Butyl acetate	PEL: 150 ppm	TLV: 150 ppm STEL: 200 ppm	No data.
1330-20-7	Xylene	PEL: 100 ppm	TLV: 100 ppm STEL: 150 ppm	No data.
100-41-4	Ethyl Benzene	PEL: 100 ppm	TLV: 100 ppm STEL: 125 ppm	No data.

Respiratory Equipment (Specify Type):	Respiratory protection in case of vapor/aerosol release. Combination filter for gases/vapors of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2). In isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures.
Eye Protection:	Safety glasses, or goggles.
Protective Gloves:	Nitrile rubber and Neoprene are recommended. Check during use that the gloves are still retaining their protective properties.
Other Protective Clothing:	Where splashing is possible, full chemically resistant protective clothing, safety glasses or face shield and boots are required.
Engineering Controls	Good general ventilation should be sufficient to control airborne levels. Safety shower

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Supersedes Revision: 01/03/2017

(Ventilation etc.):	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:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Odor: Solvent odor. Appearance: Clear to light yellow.
Melting Point:	NE
Boiling Point:	257.00 F (125.0 C) - 260.00 F (126.7 C)
Decomposition Temperature:	NE
Autoignition Pt:	752.00 F (400.0 C)
Flash Pt:	~ 91.00 F (32.8 C) Method Used: Closed Cup
Explosive Limits:	LEL: NE UEL: NE
Specific Gravity (Water = 1):	~ 1.059
Density:	~ 8.84 LB/GL
Vapor Pressure (vs. Air or mm Hg):	NE
Vapor Density (vs. Air = 1):	NE
Evaporation Rate:	NE
Solubility in Water:	NP
Solubility Notes:	Insoluble - Reacts slowly with water to liberate CO2 gas.
Saturated Vapor Concentration:	NE
Percent Volatile:	~ 25 % by weight.
VOC / Volume:	NP

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Conditions To Avoid - Instability:	Extreme temperatures. Moisture.
Incompatibility - Materials To Avoid:	Reacts with alcohols, amines. Copper alloys. Reacts with water, with formation of carbon dioxide.
Hazardous Decomposition Or Byproducts:	Carbon monoxide, Oxides of nitrogen, Traces of hydrogen cyanide, Isocyanate vapors
Possibility of Hazardous Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Conditions To Avoid - Hazardous Reactions:	Will not undergo hazardous polymerization in normal storage conditions.

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11. Toxicological Information

Toxicological Information:	May cause sensitization by inhalation. May cause sensitization by skin contact. CAS# 1330-20-7: Acute toxicity, LD50, Oral, Rat, 4300. MG/KG. Results: Liver: Other changes. Kidney, Ureter, Bladder: Other changes. ; AMA Archives of Industrial Health., For publisher information, see AEHLAU, Chicago, IL, Vol/p/yr: 14,387, 1956 Acute toxicity, LC50, Inhalation, Rat, 5000. PPM, 4 H. Results: Behavioral: Convulsions or effect on seizure threshold. Behavioral: Ataxia. Lungs, Thorax, or Respiration: Dyspnea. ; Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ., Bethlehem, PA 18015, Vol/p/yr: 1,123, 1974
Irritation or Corrosion:	May cause slight skin irritation or skin sensitization. May be slightly irritating to eyes and respiratory system.
Symptoms related to Toxicological Characteristics:	May cause respiratory sensitization. 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 pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.
Chronic Toxicological Effects:	Respiratory or skin sensitization.

12. Ecological Information

General Ecological Information:	Avoid release to the environment.
Results of PBT and vPvB assessment:	No data available.
Persistence and Degradability:	Not readily biodegradable.
Bioaccumulative Potential:	No data available.
Mobility in Soil:	not reported, unknown.

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.
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14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name:	Resin solution, [flammable] (contains Xylene, N-Butyl Acetate)		
DOT Hazard Class:	3	FLAMMABLE LIQUID	
UN/NA Number:	UN1866	Packing Group:	III
Precautionary Label:	Warning! Flammable Liquid. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Ground and bond containers and equipment before transferring to avoid static sparks. Always read Safety Material Data Sheet before use.		



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MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Resin solution, [flammable]

UN Number: 1866

Hazard Class: 3 - FLAMMABLE LIQUID

Packing Group: III

IMDG EMS Page:

No

IMDG MFAG Number:

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Resin solution, [flammable]

Note: The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. Shipment compliance is the responsibility of the person offering the product for transport.

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
123-86-4	Butyl acetate	No	Yes 5000 LB	No
1330-20-7	Xylene	No	Yes 100 LB	Yes
100-41-4	Ethyl Benzene	No	Yes 1000 LB	Yes

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

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

Regulatory Information:

California Prop. 65:

This product contains the following Proposition 65 chemicals: Ethylbenzene

16. Other Information

Revision Date:

01/26/2021

Hazard Rating System:

HEALTH	2
FLAMMABILITY	3
PHYSICAL	0
PPE	X

HMIS:

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.

Company Policy or**Disclaimer:**

The information contained in this MSDS is taken from sources believed to be accurate as of the date hereof; however the Key Resin Company makes no expressed or implied warranty in respect to the accuracy of the information or the suitability of the recommendations, and assumes no liabilities to any user thereof.