

# 464 Ultra High Solids Urethane Topcoat Hardener Part-B



HEALTH	2
FLAMMABILITY	1
PHYSICAL	0
PPE	X

Printed: 10/26/2015  
Revision: 10/26/2015

## 1. Product and Company Identification

**Product Code:** 464-B  
**Product Name:** 464 Ultra High Solids Urethane Topcoat Hardener Part-B  
**Trade Name:** 464 Ultra High Solids Urethane Topcoat Hardener Part-B

### Information

**Company Name:** Epoxy Systems, Inc.  
 20774 W Pennsylvania Ave  
 Dunnellon, FL 34431

**Phone Number:** +1 (352) 489-1666

**Emergency Contact:** PERS (USA) (800)633-8253

**Alternate Emergency Contact:** PERS (International) +1 (801)629-0667

## 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Skin Sensitization, Category 1	Exclamation point	Warning	May cause an allergic skin reaction
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation
Respiratory Sensitization, Category 1	Health hazard	Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Acute Toxicity: Inhalation, Category 4	Exclamation point	Warning	Harmful if inhaled
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness

### GHS Hazard Phrases

H320 - Causes eye irritation.  
 H335 - May cause respiratory irritation.  
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H317 - May cause an allergic skin reaction.  
 H303 - May be harmful if swallowed.

### GHS Precaution Phrases

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P264 - Wash hands thoroughly after handling.  
 P285 - In case of inadequate ventilation wear respiratory protection.  
 P271 - Use only outdoors or in a well-ventilated area.

### GHS Response Phrases

P302+352 - IF ON SKIN: Wash with plenty of soap and water. P333+313 - If skin irritation or rash occurs, seek medical advice/attention. P363 - Wash contaminated clothing before reuse.  
 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. P314 - Get medical attention/advice if you feel unwell.  
 P301 - IF SWALLOWED: P331 - Do NOT induce vomiting. P330 - Rinse mouth. P310 - Immediately call a

**SAFETY DATA SHEET**  
**464 Ultra High Solids Urethane Topcoat**  
**Hardener Part-B**

Page: 2  
Printed: 10/26/2015  
Revision: 10/26/2015

POISON CENTER or doctor/physician.

**GHS Storage and Disposal Phrases**

P501 - Dispose of contents/container to local, state, and federal authority requirements.

P405 - Store locked up.

**Potential Health Effects (Acute and Chronic)**

**Inhalation**

May cause respiratory tract irritation. May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**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.

**OSHA Regulatory Status:**

This material is classified as hazardous under OSHA regulations.

**3. Composition/Information on Ingredients**

Hazardous Components (Chemical Name)	CAS #	Concentration
1. Poly(hexamethylene diisocyanate)	28182-81-2	>99 %

**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 advice/attention.

**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. Do not induce vomiting. Do not give anything to drink. Get medical attention immediately.

**Signs and Symptoms Of Exposure**

Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing.

**5. Fire Fighting Measures**

**Flash Pt:** ~ 336.00 F Method Used: Closed Cup

**Explosive Limits:** LEL: NE UEL: NE

**Autoignition Pt:** ~ 896.00 F

**Fire Fighting Instructions**

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

**SAFETY DATA SHEET**  
**464 Ultra High Solids Urethane Topcoat**  
**Hardener Part-B**

Page: 3  
Printed: 10/26/2015  
Revision: 10/26/2015

**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.

**Hazardous Combustion Products**

Hazardous decomposition products formed under fire conditions. Carbon dioxide, Carbon monoxide, Hydrogen cyanide, Nitrogen oxides, Isocyanates.

**Suitable Extinguishing Media**

Dry chemical or CO2. Foam.

**Unsuitable Extinguishing Media**

Water spray. Reacts with water, with formation of carbon dioxide.

**6. Accidental Release Measures**

**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.

**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.

**7. Handling and Storage**

**Hazard Label Information:**

Avoid contact with skin and eyes. Do not get on skin and clothing. Avoid inhalation of vapor or mist. Store in a closed container.

**Precautions To Be Taken in Handling**

Provide adequate ventilation. Wear all personal protection required in section 8. 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. Store at temperatures not exceeding 40°C/104°F.

**Other Precautions**

Wash thoroughly after handling.

**8. Exposure Controls/Personal Protection**

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Poly(hexamethylene diisocyanate)	28182-81-2	No data.	No data.	No data.

**Protective Equipment Summary - Hazard Label Information:**

Neoprene gloves Safety glasses, or goggles. Impervious clothing. Chemical resistant boots

**Respiratory Equipment (Specify Type)**

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. 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.

**SAFETY DATA SHEET**  
**464 Ultra High Solids Urethane Topcoat**  
**Hardener Part-B**

Page: 4  
Printed: 10/26/2015  
Revision: 10/26/2015

**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.)**

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**

<b>Physical States:</b>	[ ] Gas [ X ] Liquid [ ] Solid
<b>Melting Point:</b>	NE
<b>Boiling Point:</b>	> 220.00 C / 760 mm Hg.
<b>Decomposition Temperature:</b>	NE
<b>Autoignition Pt:</b>	~ 896.00 F
<b>Flash Pt:</b>	~ 336.00 F Method Used: Closed Cup
<b>Explosive Limits:</b>	LEL: NE UEL: NE
<b>Specific Gravity (Water = 1):</b>	~ 1.12
<b>Density:</b>	~ 9.34 LB/GL
<b>Vapor Pressure (vs. Air or mm Hg):</b>	12 MM_HG at 50.0 C
<b>Vapor Density (vs. Air = 1):</b>	NE
<b>Evaporation Rate:</b>	NE
<b>Solubility in Water:</b>	~
<b>Solubility Notes</b>	
	Reacts with water.
<b>Percent Volatile:</b>	0.0 % by volume.
<b>VOC / Volume:</b>	NP
<b>HAP / Volume:</b>	NP
<b>Saturated Vapor Concentration:</b>	NE

**Appearance and Odor**

Appearance: Clear to light yellow.

Odor: Odorless.

**10. Stability and Reactivity**

**Stability:** Unstable [ ] Stable [ X ]

**Reactivity**

Avoid: acids, amines, alcohols, water, alkalines, strong bases. Reacts with water, with formation of carbon dioxide.

**SAFETY DATA SHEET**  
**464 Ultra High Solids Urethane Topcoat**  
**Hardener Part-B**

Page: 5  
Printed: 10/26/2015  
Revision: 10/26/2015

**Conditions To Avoid - Instability**

Moisture. Extreme temperatures.

**Incompatibility - Materials To Avoid**

Avoid: acids, amines, alcohols, water, alkalines, strong bases.

**Hazardous Decomposition Or Byproducts**

Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, aromatic isocyanates, gases/vapors. Nitrogen oxides.

**Possibility of Hazardous** Will occur [ ] Will not occur [ X ]

**Polymerization:**

**Conditions To Avoid - Hazardous Reactions**

Will not undergo hazardous polymerization in normal storage conditions.

**11. Toxicological Information**

**Toxicological Information**

Respiratory Sensitization.

**Chronic Toxicological Effects**

May cause sensitization by inhalation.

**Irritation or Corrosion**

May cause respiratory irritation. May cause skin irritation. May cause redness, rash on skin.

**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.

**Sensitization**

May cause rash on skin, and redness in eyes. May cause coughing by inhalation of a mist or spray.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Poly(hexamethylene diisocyanate)	28182-81-2	n.a.	n.a.	n.a.	n.a.

**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**

Significant accumulation in organisms is not to be expected.

**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. Avoid release to the environment.

**SAFETY DATA SHEET**  
**464 Ultra High Solids Urethane Topcoat**  
**Hardener Part-B**

Page: 6  
Printed: 10/26/2015  
Revision: 10/26/2015

**14. Transport Information**

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name** Not Regulated.  
**Precautionary Label** May cause skin, eye, and respiratory irritation. May cause allergic respiratory reaction.

**AIR TRANSPORT (ICAO/IATA)**

**ICAO/IATA Shipping Name** Not Regulated.

**MARINE TRANSPORT (IMDG/IMO)**

**IMDG/IMO Shipping Name** Not Regulated.  
**Marine Pollutant:** No

**15. Regulatory Information**

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Poly(hexamethylene diisocyanate)	28182-81-2	No	No	No	No

**Regulatory Information**

SARA Section 311/312: Acute, Chronic Health Hazard.

**16. Other Information**

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 Epoxy Systems, Inc. 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.

**Revision Date:** 10/26/2015