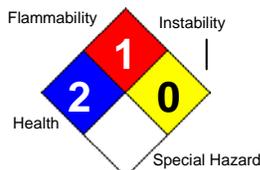


## 461 High Solids Urethane Topcoat - Clear

## Part A



HEALTH	2
FLAMMABILITY	1
PHYSICAL	0
PPE	X



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## 1. Product and Company Identification

**Product Code:** 461-CLEAR  
**Product Name:** 461 High Solids Urethane Topcoat - Clear Part A  
**Trade Name:** 461 High Solids Urethane Topcoat - Clear Part A  
**Manufacturer Information**  
**Company Name:** Epoxy Systems, Inc.  
 20774 W Pennsylvania Ave  
 Dunnellon, Florida 34431  
**Phone Number:** +1 (352) 489-1666  
**Emergency Contact:** PERS (USA) (800) 633-8253  
**Alternate Emergency Contact:** PERS (International) +1 (801) 629-0667  
**Intended Use:** Industrial Maintenance Coatings

## 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Acute Toxicity: Inhalation, Category 4	Exclamation point	Warning	Harmful if inhaled
Respiratory Sensitization, Category 1	Health hazard	Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sensitization, Category 1	Exclamation point	Warning	May cause an allergic skin reaction

### GHS Hazard Phrases

H332 - Harmful if inhaled.  
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H317 - May cause an allergic skin reaction.  
 H335 - May cause respiratory irritation.  
 H373 - May cause damage to lungs through prolonged or repeated exposure.

### GHS Precaution Phrases

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

### GHS Response Phrases

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.  
 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.  
 P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P315 - Get immediate medical advice/attention.

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**GHS Storage and Disposal Phrases**

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

P402 - Store in a dry place.

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

May cause slight skin irritation or skin sensitization. May be slightly irritating to eyes and respiratory system.

**Inhalation**

May cause respiratory irritation. May cause allergic respiratory reaction.

**Skin Contact**

May cause skin irritation. May cause allergic skin reaction.

**Eye Contact**

May cause eye irritation.

**Ingestion**

May be harmful if swallowed.

**Recommended Exposure Limits**

Not established.

**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**

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**

Mild irritation effect. May cause allergic skin reaction. If material is heated, sprayed, vapors from this material can produce asthmatic sensitization to the respiratory system.

### 5. Fire Fighting Measures

**Flash Pt:** > 300.00 F Method Used: Closed Cup

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

**Autoignition Pt:** No data available.

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**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.

**Hazardous Combustion Products**

In a fire, product may produce the following: Carbon monoxide, Oxides of nitrogen, Traces of hydrogen cyanide, Isocyanate vapors

**Suitable Extinguishing Media**

Dry extinguishing media, foam.

**Unsuitable Extinguishing Media**

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.

Absorb with sand or vermiculite and place in closed containers for disposal. Ventilate the area.

**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. Do not breathe vapor. Do not get in eyes, on skin or on clothing.

**Precautions To Be Taken in Storing**

Store away from incompatible material. Store in cool/well-ventilated place.

**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)**

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.

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**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>	NE		
<b>Decomposition Temperature:</b>	NE		
<b>Autoignition Pt:</b>	No data.		
<b>Flash Pt:</b>	> 300.00 F Method Used: Closed Cup		
<b>Explosive Limits:</b>	LEL: NE	UEL: NE	
<b>Specific Gravity (Water = 1):</b>	~ 1.17		
<b>Density:</b>	~ 9.76 LB/GL		
<b>Vapor Pressure (vs. Air or mm Hg):</b>	NE		
<b>Vapor Density (vs. Air = 1):</b>	NE		
<b>Evaporation Rate:</b>	NE		
<b>Solubility in Water:</b>	NP		
<b>Percent Volatile:</b>	N.A.		
<b>VOC / Volume:</b>	NP		
<b>HAP / Volume:</b>	NP		
<b>Saturated Vapor Concentration:</b>	NE		

**Appearance and Odor**

Odor: Mild.

Appearance: Clear.

## 10. Stability and Reactivity

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

**Reactivity**

Reacts with alcohols, amines. Reacts with water, with formation of carbon dioxide.

**Conditions To Avoid - Instability**

Extreme temperatures.

**Incompatibility - Materials To Avoid**

Reacts with alcohols, amines. 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 [ ] Will not occur [ X ]

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**Conditions To Avoid - Hazardous Reactions**

Extreme temperatures. Will not undergo hazardous polymerization in normal storage conditions.

**11. Toxicological Information**

**Toxicological Information**

May cause sensitization by inhalation. May cause sensitization by skin contact.

**Chronic Toxicological Effects**

Respiratory or skin sensitization.

**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.

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.

**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**

Incinerate or dispose of unused material, residues and containers in a licensed facility in accordance with all applicable local, state and federal regulations. Do not discharge substance/product into sewage system.

**14. Transport Information**

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name** Not Regulated.

**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

**Part A****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.

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