



# SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS, OSHA 29CFR 1910.1200

## Section 1: Chemical Product and Company Identification

MANUFACTURER'S NAME  
Advantage Coatings Technology Chemtrec U.S.-Canada: 800-424-9300  
1533 Arthur Avenue Chemtrec International: 703-527-3887  
Unit B Information: 303-499-1310  
Louisville, Colorado 80027-3054  
536-8365  
Safety Data Sheet Competent Person: info@actfinish.com  
Kevin Durling

EMERGENCY TELEPHONE  
720-

DATE PREPARED: April 18, 2014 **REVISION DATE: April 18, 2014**

PRODUCT NAME: **X - LINKER**  
FORMULA: Preparation/Mixture  
PRODUCT USE: Crosslinker

## Section 2: Hazards Identification

Regulation (EC) No 1272/2008

### GHS Hazard Class

Eye Corrosive Category 1



Sensitization Respiratory—Category 1

Sensitization Skin—Category 1

Skin Irritation -- Category 2

Signal word: Danger

Hazard Statement: Causes serious eye damage  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause allergic skin reaction.

Precautionary Statements: Prevention Wear eye protection /face protection.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
In case of inadequate ventilation wear respiratory protection.  
IF INHALED: remove person to fresh air and keep comfortable for breathing.  
If experiencing respiratory symptoms: Call a POISON Center or doctor.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves.  
Wash hands thoroughly after handling.

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF ON SKIN: Wash with plenty of water.  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Immediately call a POISON CENTER or doctor/physician.

Storage No Precautionary statement

Disposal Waste from Residues and Unused Products: Follow the waste disposal requirements of your country, state, or local authorities.

HAZARD CLASSIFICATION: Not classified as hazardous based on IATA, IMDG, and DOT.  
FIRE AND EXPLOSION: Not considered flammable or combustible, but this product will burn if involved in a fire.  
POTENTIAL HEALTH EFFECTS: <0% of mixture consists of ingredients of unknown acute toxicity  
INGESTION: Slightly toxic by ingestion.

HAZARD CLASSIFICATION: Not classified as hazardous based on IATA, IMDG, and DOT.

FIRE AND EXPLOSION: Not considered flammable or combustible, but this product will burn if involved in a fire.

POTENTIAL HEALTH EFFECTS: <0% of mixture consists of ingredients of unknown acute toxicity

INGESTION: Slightly toxic by ingestion.

INHALATION: May be harmful if inhaled. Causes respiratory tract irritation.

SKIN CONTACT: May cause slight irritation. May cause sensitization of susceptible persons.

EYE CONTACT: Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause corneal injury

OTHER: Monomeric aziridines (ethyleneimine and propyleneimine) used to produce polyfunctional aziridine crosslinkers have shown positive genotoxic activity in all animal and bacterial systems tested and are known animal carcinogens, with unknown relevance to humans. Animal and bacterial studies on the crosslinker show a similar pattern of genotoxicity. Bioavailability of the crosslinker is less than the monomer, however, care should be taken to avoid exposure.

CHRONIC EFFECTS OF OVEREXPOSURE: None

APPEARANCE: Clear liquid

NFPA Rating:

Component	Health (Blue)	Flammability (Red)	Reactivity (Yellow)	Special (White)
X - Linker	3	1	0	--

### Section 3: Composition, Information on Ingredients

PRODUCT COMPOSITION	APPRX %	ACGIH TLV	OSHA PEL	NIOSH REL	CAS NO.	EINECS/ELINCS	DANGER SYMBOL	RISK PHRASE	DSL CANADA
Polyfunctional Aziridine	70-100	2 ppm	2 ppm 5 mg/m3	2 ppm 5 mg/m3	64265-57-2	264-763-3	-----	-----	Y
P series glycol ethers	0-30	100 ppm 150 ppm STEL	100 ppm 150 ppm STEL	-----	34590-94-8	252-104-2	-----	-----	Y

Trade Secret (TS) Some items on this MSDS may be designated as trade secrets. Bonafide requests for disclosure of trade secret information to medical personnel must be made in accordance with the provisions contained in 29 CFR 1910.1200 I 1-13. The full text for all R-Phrases is shown in Section 16.

### Section 4: First Aid Measures

INHALATION: Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Get immediate medical attention.

SKIN CONTACT: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

INGESTION: If swallowed do not induce vomiting, give large quantities of water to drink. Never give anything to an unconscious person. Get immediate medical attention.

### Section 5: Fire-fighting Measures

FLASH POINT: 93-94 °C; 199 °F

FLAMMABLE LIMITS IN AIR (% by vol): Not measured

EXTINGUISHING MEDIA: Foam, Dry Chemical Powder, or Carbon Dioxide

SPECIAL FIREFIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Emits toxic fumes under fire conditions.

### Section 6: Accidental Release Measures

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wear proper protective equipment as specified in Section 8: Exposure Controls/Personal Protection

Warn other workers of spill and contain spill.

Recover spill by using absorbent and sweeping up waste material.

In case of large spills, dike the spill, if possible. Call emergency services.

Place material into a chemical waste container.

Eliminate all sources of ignition and ventilate area.

Prevent spills or contaminated rinse water from entering sewers or watercourses.

DISPOSAL METHOD: disposal should be made in accordance with federal, state, and local regulations. Incineration is recommended.

### Section 7: Handling and Storage

DISPOSAL METHOD: disposal should be made in accordance with federal, state, and local regulations. Incineration is recommended.

## Section 7: Handling and Storage

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

- Store upright in a cool, dry place.
- Keep container closed when not in use.
- Prevent build-up of electro-static charges (e.g. by grounding).
- Keep away from heat, sparks, flame, direct sunlight and other possible sources of ignition.
- Do not store with peroxides and oxidizing materials.
- Use only with adequate ventilation.
- Do not inhale vapors.
- Avoid spilling and releasing vapor.
- Wear proper protective equipment when handling this material.
- Avoid contact with skin, eyes or clothing.
- Wash hands and face after handling this material.
- Keep out of reach of children.
- Follow all applicable local regulations for handling and storage.
- Utilize chemical segregation.

### INFORMATION ON EMPTIED CONTAINER

- Dispose of this container according to local, state, and federal laws in your country.
- Do not reuse this container. This container may be hazardous when emptied.
- Residues will be explosive or flammable.
- Do not puncture or cut this container.
- Do not weld on or near this container.

### SPECIFIC USES:

- This product is intended for use as a crosslinker.

## Section 8: Exposure Controls/Personal Protection

VENTILATION: Always provide good general, mechanical room ventilation where this chemical/material is used.

SPECIAL VENTILATION CONTROLS: Use this material inside totally enclosed equipment, or use it with local exhaust ventilation at points where vapors can be released into the workspace air.

RESPIRATORY PROTECTION: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or the CEN European Standards (EU). Use a NIOSH/MSHA or European Standard (EN) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### PROTECTIVE GLOVES:

**Neoprene, butyl, or nitrile rubber gloves are recommended.**

EYE PROTECTION: Recommend eye protection using safety glasses or goggles.

SKIN PROTECTION: Suitable protective clothing to prevent skin contact

WORK/HYGIENE PRACTICES: Avoid breathing vapor. Avoid contact with eyes. Wash hands after handling.

EXPOSURE LIMITS Reference Section 2

OTHER EQUIPMENT: Make safety shower, eyewash stations, and hand washing equipment available in the work area.

## Section 9: Physical and Chemical Properties

APPEARANCE - COLOR: Clear to amber

PHYSICAL STATE: Liquid

ODOR: Mild solvent

### PRODUCT CRITERIA

	PRODUCT CRITERIA
ODOR THRESHOLD	Not applicable for product
PH	Basic
FLASH POINT:	93-94 °C, 199 °F
LOWER EXPLOSIVE LIMIT; UPPER EXPLOSIVE LIMIT	Not applicable for product
FLAMMABILITY (Solid, gas)	Not flammable
EXPLOSIVE PROPERTIES	Not applicable for product
OXIDIZING PROPERTIES	May occur
SPECIFIC GRAVITY (@25 °C):	1.07
EVAPORATION RATE:	Less than n-butyl acetate
% VOLATILE by VOLUME	0-30
PARTITION COEFFICIENT	Not applicable for product
AUTO IGNITION TEMPERATURE	Not applicable for product
DECOMPOSITION TEMPERATURE	Not applicable for product
BOILING POINT:	Not applicable for product

PARTITION COEFFICIENT	Not applicable for product
AUTO IGNITION TEMPERATURE	Not applicable for product
DECOMPOSITION TEMPERATURE	Not applicable for product
BOILING POINT:	Not applicable for product
MELTING POINT:	>212 °F
VAPOR PRESSURE	Negligible
VAPOR DENSITY (AIR = 1)	Heavier than air
SOLUBILITY IN WATER:	Miscible
WATER SOLUBILITY IN THE SOLVENT	Miscible
FREEZING POINT:	Not applicable for product
VISCOSITY	Not applicable for product
VOC CONTENT	0-30% by weight

## Section 10: Stability and Reactivity

STABILITY:	Stable under normal conditions.
CONDITIONS TO AVOID:	Avoid contamination with acidic materials, heat, direct sunlight, ultraviolet radiation, strong oxidizing conditions and freezing conditions. Unstable at elevated temperatures and pressures, or may react with water or acids with some release of energy, but not violently
INCOMPATIBILITY (MATERIALS TO AVOID):	Acidic materials, anhydrides, strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide and carbon dioxide
HAZARDOUS POLYMERIZATION:	May occur if mixed with acidic materials.

## Section 11: Toxicological Information

There is no toxicological information available for the product mixture.

GHS Required Criteria	Toxicity Criteria	Toxicity Information	Comments	Chemical Constituent
Acute Toxicity	LD50 Dermal Rabbit	9510 mg/kg		P series glycol ethers
	LC50 Inhalation Rat	552 ppm		P series glycol ethers
	LD50 Dermal Rabbit	500-5000 mg/kg		Polyfunctional Aziridine
Skin Corrosion/Irritation		No information is available.		
Serious Eye Damage / Eye Irritation	Eye corrosive based on animal studies.			Polyfunctional Aziridine
Respiratory or Skin Sensitization	Known skin sensitizer based on animal studies. Known respiratory sensitizer.			Polyfunctional Aziridine
Germ Cell Mutagenicity		No information is available.		
Carcinogenicity		Not listed	NTP	
		Not listed	IARC	
		Not listed	OSHA	
Reproductive Toxicity		No information is available.		
STOST -- Single Exposure	Inhalation:	May cause respiratory irritation		P series glycol ethers
STOST -- Repeated Exposure		No information is available.		
Aspiration Hazard		No information is available.		
Ames test				

STOST = Specific Target Organ Systemic Toxicity

### OTHER INFORMATION:

Only selected Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

## Section 12: Ecological Information

BIODEGRADATION:	Not readily biodegradable. Aerobic biodegradation: 16.1% (day 28) (read-across) (OECD 301F; EU method C.4-D). Not readily biodegradable (QSAR calculation; EPA v3.20/BIOWIN v4.10)	Polyfunctional Aziridine
BIOACCUMULATION:	Low potential for bioaccumulation (log Pow < 3)	Polyfunctional Aziridine
ECO TOXICITY:	LC50 / 96 HOURS Pimephales promelas (fathead minnow) 10,000 mg/l	P series glycol ethers
	LC50 / 48 HOURS Daphnia magna. 1,919 mg/l (nominal)	P series glycol ethers

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ECO TOXICITY:	LC50 / 96 HOURS Pimephales promelas (fathead minnow) 10,000 mg/l	P series glycol ethers
	LC50 / 48 HOURS Daphnia magna. 1,919 mg/l (nominal)	P series glycol ethers
	EC50 / 72 HOURS Selenastrum capricornutum (green algae) 1,000 mg/l	P series glycol ethers
	EC10 / Pseudomonas putida cell growth 4,168 mg/l (nominal)	P series glycol ethers
	LC50 (lethal concentration, 50%): 2.35mg/L (96 hr; estimated data: ECOSAR v1.00a)	Polyfunctional Aziridine
	EC50 (effect concentration, 50%): 6.96 mg/L (48hr; estimated data: ECOSAR v1.00a)	Polyfunctional Aziridine
	EC50 (effect concentration, 50%): 3.33 mg/L (96hr; estimated data; ECOSAR v1.00a)	Polyfunctional Aziridine
MOBILITY:	No information is available.	

Note: Not all of the ingredients have been tested for Ecotoxicity.

## Section 13: Disposal Considerations

### WASTE FROM RESIDUES / UNUSED PRODUCTS:

Follow the waste disposal requirements of your country, state, or local authorities.

### CONTAMINATED PACKAGING:

Recommend contaminated packaging material should be disposed of as stated above for residues and unused product.

RINSATE: Do not dispose of rinse water containing product in a sanitary sewer system or storm water drainage system.

## Section 14: Transport Information

### ROAD TRANSPORT:

#### ADR = International Carriage of Dangerous Goods by Road

UN NUMBER: UN 3082  
 DOT PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S. (Polyfunctional Aziridine)  
 DOT / ADR HAZARD CLASS: Miscellaneous  
 DOT / ADR LABELS: Class 9  
 PLACARD: Class 9  
 DOT / ADR PACKAGING GROUP: I

### SEA TRANSPORT: IMDG

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S. (Polyfunctional Aziridine)  
 UN NUMBER SEA UN 3082  
 CLASS: 9  
 PACKING GROUP: I  
 EmS No.: F-A, S-F  
 MARINE POLLUTANT: No  
 SEA TRANSPORT NOTES:

### AIR TRANSPORT: IATA/ICAO

UN NUMBER: UN 3082  
 PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S. (Polyfunctional Aziridine)  
 HAZARD CLASS: 9  
 PACKAGING GROUP: I

## Section 15: Regulatory Information

Directive 1999/45/EC

LABEL FOR SUPPLY:



IRRITANT

RISK PHRASES:

R-Phrase: R36 Irritating to Eyes  
 R38 Irritating to Skin  
 S-Phrase: S24 Avoid contact with Skin  
 S25 Avoid contact with Eyes

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

This product is in compliance with rules, regulations, and orders of TSCA. All components are listed on the TSCA Inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER

**TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:**

This product is in compliance with rules, regulations, and orders of TSCA. All components are listed on the TSCA Inventory.

**SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:**

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all MSDS's that are copied and distributed for the material.

The Section 313 toxic chemicals contained in this product are: None

**CALIFORNIA PROPOSITION 65:**

This regulation requires a warning for California Proposition 65 chemical(s) under the statute.

The California proposition 65 chemical(s) contained in this product are: None

**STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:**

Florida Toxic Substance(s):	Not listed
Massachusetts's hazardous substance(s):	Not listed
Pennsylvania hazardous substance code(s):	Not listed
New Jersey	Not listed
Illinois	Not listed
Michigan	Not listed

**CANADA:**

This MSDS/SDS will be non-compliant 3 years after the issue date. This MSDS contains all of the information required by the Controlled Products Regulations (CPR).

**WHMIS-INFORMATION:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR), SOR/88-66, Current to February 20, 2012. The classes of controlled products listed in the CPR, Section 32, Part IV, have been reviewed and based on Professional Judgment this product has been determined to not be WHMIS controlled.

**EUROPEAN UNION:**

This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Directive 1999/45/EC, Regulation (EC) No 1272/2008 on classification, labeling and packaging (CLP) of substances and mixtures.

WGK: 0 (German Federal Water Management Act) (Water Hazard Class)

## Section 16: Other Information

**European Community Hazards Identification:**

R: None

S: None

Danger Symbol(s): None

Revision Comments: Initial version April 18, 2014

Revision Number: 0

Information Sources: RTECS, REACH, OSHA 29CFR 1910.1200

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Part No. X - Linker

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