Material Safety Data Sheet
U-Coat 527 (A-Side)

DISTRIBUTOR:
Umaco, Inc.
60 Rear Newhall Street
Lowell, MA 01852 USA
TELEPHONE NUMBER FOR INFORMATION: 978-453-8881

DATE PREPARED: September 17, 2012
EMERGENCY TELEPHONE NUMBER (CHEMTREC): 800-424-9300

PRODUCT NAME: U-Coat 527 (A-Side)
PRODUCT CODE: UMA527A
CHEMICAL FAMILY: Aliphatic Polyisocyanate
CHEMICAL NAME: 1,6—Hexamethylene Diisocyanate based Polyisocyanate

Emergency Overview

Warning: Color: colorless to light yellow, Amber  Form: liquid  Odor: slight
Toxic gases/fumes may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool re-exposed containers to minimize the risk of rupture. Causes respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitization. Lung damage and respiratory sensitization may be permanent. Causes skin irritation. May cause allergic skin reaction. Skin sensitization. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. Causes eye irritation. May cause lung damage.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Inhalation, Eye Contact

Medical Conditions Aggravated by Exposure: Asthma, Respiratory disorders, Skin Allergies, Eczema

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation
Acute Inhalation
Disocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting condition, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchospasm, bronchial spasms and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with asthma-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Chronic Inhalation
As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed up to several hours after exposure. Extreme asthma reaction can be life-threatening. Similar to many nonspecific asthma responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including emphysema, decrease in lung function) that may be permanent.

Skin
Acute Skin
Causes irrita on with symptoms of reddening, itching, and swelling. Persons previously sensi zed can experience allergic skin reac on with symptoms of reddening, itching, swelling, and rash. Cured material is di cult to remove. Contact with MDI can cause discolora on.

Chronic Skin
Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensi za on. Animal tests and other research indicate that skin contact with HDI can play a role in causing isocyanate sensi za on and respiratory reac on.

Eye
Acute Eye
Causes irrita on with symptoms of reddening, tearing, s nging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irrita on with symptoms of burning and tearing.

Chronic Eye
Prolonged vapor contact may cause conjunc vis.

Inges on
Acute Inges on
May cause irrita on; Symptoms may include abdominal pain, nausea, vomi ng, and diarrhea.

Carcinogenicity:
No Carcinogenic substances as de ned by IARC, NTP and/or OSHA

Hazardous components
Residual diisocyanate monomer content of <0.25%

Weight percent
>=95%
<= 0.25%

Components
Homopolymer of Hexamethylene Diisocyanate
Hexamethylene-1,6-diisocyanate

C.A.S. No.
28182-81-2
822-06-0

Eye contact
In case of contact, immediately ush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use ngers to ensure that eyelids are separated and that the eye is being irrigated. Get medical a en on.

Skin contact
Immediately remove contaminated clothing and shoes. Wash o with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical a en on if irrita on develops.

Inhala on
Move to an area free from further exposure. Get medical a en on immediately. Administer oxygen or ar cial respira on as needed. Asthma c symptoms may develop and may be immediate or delayed up to several hours. Extreme asthma c reac ons can be life threatening.

Inges on
Do NOT induce vomi ng. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical a en on.

Notes to physician
Eyes: Stain for evidence of corneal injury. If cornea is burned, ins Il an bio c/steroid prepara on as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensi zer. Treat symtom a cally as for contact derma s or thermal burn. Inges on: Treat symtom a cally. There is no speci c an dote. Inducing vomi ng is contraindicated because of the irrita ng nature of the compound. Inhala on: Treatment is essen ally symtom a c. An individual having a dermal or pulmonary sensi za on reac on to this material should be removed from further exposure to any diisocyanate.

Suitable ex nguishing media: Dry chemical, Carbon dioxide (CO2), Foam, water spray for large res

Special Fire Figh ng Procedures
Fire ghters should wear NFPA compliant structural re gh ng protec ve equipment, including selfcontained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with
product. Decontaminate equipment and protec ve clothing prior to reuse. During a re, isocyanate vapors and other irrita ng, highly toxic gases may be generated by thermal decomposi on or combus on. Exposure to heated disocyanate can be extremely dangerous.

Unusual Fire/Explosion Hazards
Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO2 formed). Use cold-water spray to cool re-exposed containers to minimize the risk of rupture. Large res can be ex nguished with large volumes of water applied from a safe distance, since reac on between water and hot disocyanate can be vigorous.

Spill and Leak Procedures
Evacuate non-emergency personnel. Isolate the area and prevent access. Remove igni on sources. No fy management. Put on protec ve equipment. Control source of the leak. Ven late. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Call Bayer at 412-923-1800 for assistance and advice. Major Spill or Leak (Standing liquid): Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kly Li er, Oil-Dri®, etc). Saturate absorbent material with neutralize on solu on and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applica ons of decontamina on solu on, with scrubbing, followed by absorbent un t the surface is decontaminated. Check for residual surface contamina on. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide (CO2) escape.

Addi onal Spill Procedures/Neutraliza on
Neutraliza on solu ons:
(1) Colorimetric Laboratories Inc. (CLI) decontamina on solu on.
(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% npropanol.
(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

Protec ve Polymers requires that CHEMTREC be immediately not ed (800-424-9300) when this product is uninten onally released from its container during its course of distribu on, regardless of the amount released. Distribu on includes transporta on, storage incidental to transporta on, loading and unloading. Such no ca on must be immediate and made by the person having knowledge of the release.

Storage temperature:
minimum: -34 °C (-29.2°F)
maximum: 50 °C (122 °F)

Storage period
1 year

Handling/Storage Precau ons
Do not breathe vapors, mists, or dusts. Use adequate ven la on to keep airborne isocyanate levels below the exposure limits. Wear respiratory protec on if material is heated, sprayed, used in a con ned space, or if the exposure limit is exceeded. Warning proper es (irrita on of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhala on. This material can produce asthma c sensi za on upon either single inhala on exposure to a rela vely high concentra on or upon repeated inhala on exposures to lower concentra ons. Individuals with lung or breathing problems or prior allergic reac ons to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protec on. Wash thoroughly a er handling. Do not breathe smoke and gases created by overhea ng or burning this material. Decomposi on products can be highly toxic and irrita ng. Store in ghly closed containers to prevent moisture contamina on. Do not reseal if contamina on is suspected.

Further Info on Storage Condi ons
Employee educa on and training in the safe use and handling of this product are required under the OSHA Hazard Communica on Standard 29 CFR 1910.1200.

Homopolymer of Hexamethylene diisocyanate (28182-81-2)
Bayer Exposure Limit
Time Weighted Average (TWA): 0.5 ppm
Bayer Exposure Limit
Ceiling Limit Value: 1 mg/m3 (15 min)

Industrial Hygiene/Ven la on Measures
Local exhaust should be used to maintain levels below the TLV whenever MDI is heated, sprayed, or
aerosolized. Standard reference sources regarding industrial ven la on (e.g., ACGIH Industrial Ven la on Manual) should be consulted for guidance about adequate ven la on. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characteriza on program. NIOSH, OSHA, Bayer, and others have developed sampling and analy cal methods. Bayer methods can be made available, upon request.

**Respiratory protec on**
Airborne HDI concentra ons greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ven lated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory protec on must be worn. The type of respiratory protec on selected must comply with the requirements set forth in OSHA’s Respiratory Protec on Standard (29 CFR 1910.134). The type of respiratory protec on available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the posi ve pressure or con nuous ow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) cer efied by NIOSH, or(b) a change out schedule, based on objec ve informa on or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the wri en respirator program. Further, if an APR is selected, the airborne diisocyanate concentra on must be no greater than 10 mes the TLV or PEL. The recommended APR cartridge is an organic vapor/par cate iter combina on cartridge (OV/P100).

**Hand protec on**
Gloves should be worn. Nitrile rubber showed excellent resistance., Butyl rubber, neoprene and PVC are also e ec ve.

**Eye protec on**
When directly handling liquid product, eye protec on is required. Examples of eye protec on include a chemical safety goggle, or chemical safety goggle in combina on with a full face shield when there is a greater risk of splash.

**Skin and body protec on**
Avoid all skin contact. Depending on the condi ons of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact., Animal tests and other research indicate that skin contact with HDI can play a role in causing isocyanate sensi za on and respiratory reac on. This data reinforces the need to prevent direct skin contact with isocyanates.

**Medical Surveillance**
All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evalua on. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensi za on should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be ins tuted for all employees who are poten ally exposed to diisocyanates. Once a worker has been diagnosed as sensi ze to any isocyanate, no further exposure can be permi ed. Refer to the Bayer pamphlet (Medical Surveillance Program for Isocyanate Workers) for addi onal guidance.

**Addi onal Protec ve Measures**
Emergency show ers and eye wash sta ons should be available. Educate and train employees in the safe use and handling of this product. Follow all label instruc ons.

<table>
<thead>
<tr>
<th>Form:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Colorless to light yellow</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight</td>
</tr>
<tr>
<td>pH:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Freezing Point:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling point:</td>
<td>Decomposit on</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&gt; 158 °C (316 °F) (Pensky-Martens Closed Cup (ASTM D-93))</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>5.2 X10-9 mmHg @ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.16 @ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble - Reacts slowly with water to liberate CO2 gas</td>
</tr>
<tr>
<td>Bulk density:</td>
<td>9.68 Lb/Gal</td>
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</table>

**Hazardous Reac ons**
Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymeriza on.

**Materials to avoid**
Water, Amines, Strong bases, Alcohols, Copper alloys
Hazardous decomposi on products
By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke, Isocyanate, Isocyanic Acid, Other undetermined compounds

Toxicity Note
Toxicity data based on Homopolymer of HDI.

Acute oral toxicity
LD50: > 5,000 mg/kg (rat, Male/Female)

Acute inhala on toxicity
LC50: 390-453 mg/m³, 4 h (rat), RD50 20.8 mg/kg

Skin irrita on
rabit, Slightly irrita ng

Mutagenicity
Gene c Toxicity in Vitro:
Bacterial - gene muta on assay: nega ve (Salmonella typhimurium, Metabolic Ac va on: with/without)

Carcinogenicity
rat, Male/Female, inhala on, 2 Years, 6 hrs/day 5 days/week,
Exposure to a level of 6 mg/m³ polymeric MDI was related to the occurrence of lung tumors. This level is signi cantly over the TLV for MDI.

Developmental Toxicity/Teratogenicity
rat, female, inhala on, gesta on days 6-15, 6 hrs/day, NOAEL (teratogenicity): 12 mg/m³, NOAEL (maternal): 4 mg/m³
No Teratogenic e ffects observed at doses tested., Fetotoxicity seen only with maternal toxicity.

Toxicity Data for Polyurethane Prepolymer
Toxicity Note
No data available for this component.

Toxicity Data for Homopolymer of (HDI)
Acute inhala on toxicity
LC50: 369 mg/m³, 4 h (rat, Male/Female)
LC50: > 2240 mg/m³, 1 h (rat) (OECD Test Guideline 403)

Acute dermal toxicity
LD50: > 5,000 mg/kg (rabbit)

Skin irrita on
rabit, Draize Test, Slightly irrita ng

Eye irrita on
rabit, Draize Test, Slightly irrita ng

Sensi sa on
dermal: sensi zer (guinea pig, Maximiza on Test)
inhala on: sensi zer (Guinea pig)

Repeated dose toxicity
90 Days, inhala on: NOAEL: 0.3 mg/m³, (rat, Male/Female, 18 hrs/day, 5 days/week)
Irrita on to lungs and nasal cavity.

Mutagenicity
Gene c Toxicity in Vitro:
Ames: (Salmonella typhimurium, Metabolic Ac va on: with/without)
Posi ve and nega ve results were reported. The use of certain solvents which rapidly hydrolyze diisocyanates is suspected of producing the posi ve mutagenicity results.

Carcinogenicity
rat, Female, inhala on, 2 Years, 17 hrs/day, 5 days/week, Nega ve

Biodegrada on
0 %, Exposure me: 28 d, i.e. not degradable
Acute and Prolonged Toxicity to Fish
LC50: > 100 mg/l (Danio rerio (zebra sh), 96 h)

Acute Toxicity to Aquatic Invertebrates
EC50: > 100 mg/l (Water flea (Daphnia magna), 24 h)

Toxicity to Aquatic Plants
NOEC: 1,000 mg/l, End Point: growth (Green algae (Scenedesmus subspicatus), 72 h)

Toxicity to Microorganisms
EC50: > 1000 mg/l, (activated sludge, 3 h)

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty Container Precautions
Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

Land transport (DOT)
Proper shipping name: Other regulated substances, liquid, n.o.s. (contains homopolymer of hexamethylene diisocyanate

Hazard Class or Division: 9
UN/NA Number: NA3082
Packaging group: III
Hazard Label(s): Class 9

RSPA/DOT Regulated Components:
Hexamethylene-1,6-diisocyanate
Reportable Quantity: 40,000 lbs

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

Additional Information
When in individual containers of less than the Product RQ, this material ships as non-regulated.

United States Regulations
OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act:
Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components
None

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

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components
None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes
and Appendix VIII Hazardous Constituents (40 CFR 261)
Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right To Know Substance Lists:

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>C.A.S. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=95%</td>
<td>Homopolymer of Hexamethylene Diisocyanate</td>
<td>28182-81-2</td>
</tr>
</tbody>
</table>

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>C.A.S. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 0.25%</td>
<td>Hexamethylene-1,6-diisocyanate</td>
<td>822-06-0</td>
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</table>

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>NFPA 704M Rating</th>
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<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

<table>
<thead>
<tr>
<th>HMIS Rating</th>
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</thead>
<tbody>
<tr>
<td>Health</td>
<td>2*</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
</tbody>
</table>
0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
* = Chronic Health Hazard

This information is furnished without warranty, expressed or implied. This information is believed to be accurate to the best knowledge of Umaco, Inc. The information in this MSDS relates only to the specific material designated herein. Umaco, Inc. assumes no legal responsibility for use of or reliance upon the information in this MSDS.
Material Safety Data Sheet
U-Coat 527 (B-Side)

1. Product and Company Information

PRODUCT NAME: U-Coat 527 (B-Side)
PRODUCT CODE: UMA527B
CHEMICAL FAMILY: Aspartic Ester
CHEMICAL NAME: Aminofunctional reactive thinner

2. Hazards Identification

Emergency Overview

Caution! Color: Varies with pigment on Form: liquid Odor: slight
Irritating gases/fumes may be given off during burning or thermal decomposition. Use cold water spray to cool exposed containers to minimize risk of rupture. May cause respiratory tract irritation. May cause allergic reactions. May cause skin irritation.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, Ingestion, Inhalation
Medical Conditions Aggravated by Exposure: Skin disorders, Respiratory disorders, Eye disorders, Skin Allergies

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation
Acute Inhalation for Component: aspar Garcia ester
Inhalation is unlikely due to the low vapor pressure. If misted or handled at elevated temperatures, high concentrations may cause respiratory tract irritation.

Skin
Acute Skin For Component: Aspar Garcia ester
May cause irritation with symptoms of reddening and itching. May cause sensitivity.

Eye
Acute Eye For Component: Aspar Garcia Ester
Not expected to be irritating.

Ingestion
Acute Ingestion for Component: Aspar Garcia Ester
Not expected to be harmful if swallowed.

Carcinogenicity:
No Carcinogenic substances as defined by IARC, NTP and/or OSHA

3. Composition/Information on Ingredients

Hazardous components
4. First Aid Measures

Eye contact
In case of contact, flush with plenty of luke warm water for at least 15 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if necessary.

Skin contact
In case of contact, flush with plenty of luke warm soap and water for at least 15 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if necessary. Wash clothing and shoes before reuse. Get medical attention.

Inhalation
If inhaled, remove to fresh air. If breathing is difficult, give oxygen.

Ingestion
If ingested, do not induce vomiting unless directed to do so by medical personnel. Call a physician.

Notes to physician
None

5. Fire-fighting measures

Suitable extinguishing media: Carbon dioxide (CO2), Dry chemical, Foam, water spray for large fires

Special Fire Fighting Procedures
Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Use cold water spray to cool re-exposed containers to minimize the risk of rupture.

6. Accidental release measures

Spill and Leak Procedures
Cover spill with inert material (e.g. dry sand or earth) and collect for proper disposal. Prevent from entering open drains and waterways. Ventilate area to remove vapors or dust. Wear proper personal protective equipment.

7. Handling and storage

Storage temperature: Minimum: 0 °C (32 °F) Maximum: 50 °C (122 °F)

Storage period One Year

Handling/Storage Precautions
Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use. Protect from freezing. Avoid contact with eyes and skin. Avoid contact with water.

8. Exposure controls/personal protective equipment

Industrial Hygiene/Ventilation Measures
Under normal conditions of use, special ventilation is not required. When sprayed, local exhaust is necessary to control airborne vapors.

Respiratory protection
In spray applications, an organic vapor/particulate cartridge or supplied air is necessary. Supplied air is preferred.
Hand protec on
Permea on resistant gloves. Nitrile or Butyl

Eye protec on
Safety glasses with side shields

Skin and body protec on
Permea on resistant clothing

Addi onal Protec ve Measures
Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

9. Physical and chemical proper es

Form: liquid
Color: depends on pigmenta on.
Odor: Slight
pH: Not established.
Flash point: Approximatley 145C
Speci c Gravity: 1.10
Solubility in Water: Insoluble
VOC Content: 0 g/L
Bulk density: 9.1 lbs/gal

10. Stability and reac vity

Hazardous Reac ons
Hazardous polymerisa on does not occur.

Stability
Stable

Materials to avoid
Oxidizing agents

Hazardous decomposi on products
By Fire: Carbon oxides; Amines, nitrogen oxides (NOx), other

11. Toxicological informa on

No data available for this product.
Toxicity Data for Base Polyol Resin

Acute oral toxicity
LD50: >2000 mg/kg (Rat)

Acute inhala on toxicity
LC50: > 4224 mg/l, 4 h (Rat)

Acute dermal toxicity
LD50: > 2,000 mg/kg (rat)

Skin irrita on
rabbit, Non-irrita ng

Eye irrita on
rabbit, moderately irrita ng

Sensi za on
Magnusson/Kligmann (Maximiza on Test)

Mutagenicity
Gene c Toxicity in Vitro: Ames Test = Nega ve (Based on similar product)

12. Ecological informa on

Addi onal Ecotoxicological Remarks
No data available for this product.

Biodegrade on
<13%, Exposure m: 28d, Not readily biodegradeable

Chemical Oxygen Demand (COD)
Acute and Prolonged Toxicity to Fish
38 mg/l (Fathead Minnow (Pimephales promelas), 96 h)

13. Disposal Considerations

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions
Recondition or dispose of empty container in accordance with governmental regulations.

14. Transport Information

Land transport (DOT) Non-Regulated
Sea transport (IMDG) Non-Regulated
Air transport (ICAO/IATA) Non-Regulated

15. Regulatory Information

United States Federal Regulations
OSHA Hazcom Standard Rating
Toxic Substances Control Act: Hazardous Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components None

SARA Section 301/312 Hazard Categories:
Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components None

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The following chemicals are specifically listed by individual states; other product specifics health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>C.A.S. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-100%</td>
<td>Asparagine Carboxylic Ester</td>
<td>Trade secret</td>
</tr>
<tr>
<td>5-10%</td>
<td>Monoaspartate</td>
<td>Trade secret</td>
</tr>
<tr>
<td>1-5%</td>
<td>Aliphatic Carboxylic Ester</td>
<td>623-91-6</td>
</tr>
</tbody>
</table>

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

16. Other Information

NFPA 704M Rating
Health 2
Flammability 1
Reactivity
0
Other
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>
0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
* = Chronic Health Hazard

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