






SAFETY DATA SHEET

1.0 IDENTIFICATION

- 1.1 **GHS product identifier:** 861 UltraFair Hardener
- 1.2 **Other means of identification:** Amine/Polyamide Blend
- 1.3 **Recommended use of the chemical and restrictions on use:** N/A
- 1.4 **Supplier's details:** CASS POLYMERS OF MICHIGAN, INC.
815 WEST SHEPHERD STREET
CHARLOTTE MI 48813 USA
INFORMATION PHONE NUMBER: (248) 588-2270
- 1.5 **Emergency phone number:** (703) 527-3887(Call Collect)

2.0 HAZARDS IDENTIFICATION

- 2.1 **Classification of the substance or mixture:**
Skin Sensitizer 1, Skin Corrosion/Irritation 2, Eye Damage/Irritation 2B, Acute Toxicity – Inhalation 4, Acute Toxicity – Oral 4
- 2.2 **GHS label elements:**

	<p>Signal Word: Warning</p> <p>Hazard Statement: May cause an allergic skin reaction</p> <p>Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.</p> <p>Response: If on skin: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Continued and thorough washing in flowing water for at least 15 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash contaminated clothing before reuse.</p> <p>Disposal: Dispose of contents/container by incineration under controlled conditions in accordance with all local and national laws and regulations.</p>
	<p>Signal Word: Warning</p> <p>Hazard Statement: Causes skin irritation</p> <p>Prevention: Wash hands thoroughly after handling. Wear protective gloves.</p> <p>Response: If on skin: wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention. Take off contaminated clothing and wash before reuse.</p>
	<p>Signal Word: Warning</p> <p>Hazard Statement: Causes eye irritation</p> <p>Prevention: Flush eyes thoroughly after eye contact.</p> <p>Response: If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.</p>
	<p>Signal Word: Warning</p> <p>Hazard Statement: Harmful if inhaled</p> <p>Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.</p> <p>Response: If inhaled: remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.</p>
	<p>Signal Word: Warning</p> <p>Hazard Statement: Harmful if swallowed</p> <p>Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.</p> <p>Response: If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth.</p> <p>Disposal: Dispose of contents/container by incineration under controlled conditions in accordance with all local and national laws and regulations.</p>

- 2.3 **Other hazards which do not result in classification:** Flammable Liquid

2.4 Hazards Material Information System (United States):

Health	2
Flammability	1
Physical Hazard	0

Hazard Codes: *=Chronic Hazard 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Chemical Identity	CAS No.	Concentration
Tetraethylenepentamine (TEPA)	112-57-2	3% - 5%
Triethylenetetramine (TETA)	112-24-3	1% - 3%
Polymer of C18 Unsaturated Fatty Acid Dimers w/TETA and TOFA	68082-29-1	7% - 10%
TOFA, Reaction Products with TETA	68953-36-6	7% - 10%
Benzyl Alcohol	100-51-6	15% - 20%
Amorphous Fumed Silica	67762-90-7	3% - 5%
4,4'-Methylenebiscyclohexanamine	1761-71-3	2% - 5%
Cycloaliphatic Amine	Not Available	20% - 30%
Acids, Proprietary Component	Not Available	1% - 3%
Borosilicate Glass	65997-17-3	5% - 10%
Iron Oxide	1309-37-1	0.5%

4.0 FIRST-AID MEASURES

4.1 Description of necessary first-aid measures:

Eye Contact: Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

Skin Contact: Remove contaminated clothing and shoes. Remove product and immediately flush affected area with water for at least 15 minutes. Cover the affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply greases or ointments. Control shock, if present.

Inhalation: Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Seek medical advice. Prevent aspiration of vomit. Turn victim's head to the side.

Ingestion: In the event of ingestion, administer 3-4 glasses of milk or water. Do not induce vomiting. Seek medical advice.

4.2 Most important symptoms/effects, acute and delayed:

Signs And Symptoms of Exposure (Acute effects): Product vapor in low concentrations can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effect. Contact with the skin may cause dryness (defatting), itching and/or rash. Inhalation of mists may cause irritation in the respiratory tract. Inhalation of vapors may cause irritation in the respiratory tract. Contact with the skin or eyes causes moderate eye and skin irritation, redness and discomfort which is transient. Coughing and chest pain may result. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

Signs And Symptoms of Exposure (Possible Longer Term Effects): Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough, tightness of chest or shortness of breath), adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as defatting, rash, or irritation), adverse skin effects (such as rash, irritation or corrosion). Effects from inhalation of vapors may be delayed. Dryness of nasal passages may be experienced when material is inhaled over a long period of time. Repeated and/or prolonged exposure to low concentrations of vapor may cause: sore throat, eye irritation which are transient.

Medical conditions generally aggravated by exposure: Asthma, Chronic respiratory disease (e.g. Bronchitis, Emphysema), Eye disease, Skin disorders and Allergies.

Carcinogens Under OSHA, ACGIH, NTP, IARC: This product contains no listed carcinogens in concentrations of 0.1 percent or greater. See section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION for exposure limits and recommended protective equipment. See section 11-TOXICOLOGICAL INFORMATION for any further information.

4.3 Indication of immediate medical attention and special treatment needed, if necessary: N/A

5.0 FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO₂), dry chemical, dry sand or limestone.

5.2 Specific hazards arising from the chemical:

Flash Point (closed cup) is 96.67° C (206° F). May generate toxic or irritating combustion products. Contact of liquid with skin must be prevented. Sudden reaction and fire may result if product is mixed with an oxidizing agent. May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas. Personnel in vicinity and downwind should be evacuated.

5.3 Special protective actions for fire-fighters:

A face shield should be worn. Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus. Retain expended liquids from fire fighting for later disposal.

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Open enclosed spaces to outside atmosphere. Wear protective clothing, boots, gloves, and eye protection. At elevated temperatures a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for ammonia may be appropriate.

6.2 Methods and materials for containment and clean up:

Containment Techniques: Stop the leak, if possible. Ventilate the space involved. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).

Clean-Up Procedures: If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing.

7.0 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well-ventilated workspace. When handling, do not eat, drink, or smoke.

Other Precautions: Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA). Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.

7.2 Conditions for safe storage, including any incompatibilities:

Keep away from: acids, oxidizers. Keep in cool, dry, ventilated storage areas and in closed containers. Do not store in reactive metal containers.

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	CAS No.	Percent	Exposure Limits	Source
Amorphous Silica	7631-86-9	<1%	2.4 mg/m ³ TWA respirable dust, 10 mg/m ³ TWA total inhalable dust	OES/EH40 ACGIH

8.2 Appropriate engineering controls:

No specific controls needed.

8.3 Individual protection measures, such as personal protective equipment:

Eye Protection: Chemical Safety Glasses with Side-Shields. A full-face shield and vapor respirator is recommended for operations involving spraying or other operations placing this material under pressurized conditions.

Hand Protection: Neoprene rubber gloves. Impermeable gloves. Cuffed butyl rubber gloves. Nitrile rubber gloves. Polyvinyl chloride gloves. Rubber Gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period. The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Not required under normal conditions in a well-ventilated workplace. An organic vapor respirator National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors is recommended under emergency conditions. At elevated temperatures a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for ammonia may be appropriate.

Protective Clothing: Long sleeved clothing.

Work and Hygienic Practices: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated.

9.0 PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 **Appearance (physical state, color, etc.):** Thixotropic Paste, Brown
 - 9.2 **Odor:** Amine Odor
 - 9.3 **Odor threshold:** N/A
 - 9.4 **pH:** Basic
 - 9.5 **Melting point/freezing point:** Not Determined
 - 9.6 **Initial boiling point and boiling range:** Not Determined
 - 9.7 **Flash Point:** Not Determined
 - 9.8 **Evaporation rate:** N/A
 - 9.9 **Flammability (solid, gas):** N/A
 - 9.10 **Upper/lower flammability or explosive limits:** LFL-Not Determined; UFL-Not Determined
 - 9.11 **Vapor pressure:** Not Determined
 - 9.12 **Vapor Density:** N/A
 - 9.13 **Relative density(Specific Gravity):** 0.85 - 0.90
 - 9.14 **Solubility(ies):** Liquid Components are Slightly Soluble in Water (0.1 - 1%)
 - 9.15 **Partition coefficient; n-octanol/water:** N/A
 - 9.16 **Auto-ignition temperature:** N/A
 - 9.17 **Decomposition temperature:** N/A
 - 9.18 **Viscosity:** N/A
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10.0 STABILITY AND REACTIVITY

- 10.1 **Reactivity:** N/A
 - 10.2 **Chemical stability:** Stable under normal handling and storage conditions, see Section 7, Handling and Storage.
 - 10.3 **Possibility of hazardous reactions:** Will not occur
 - 10.4 **Conditions to avoid:** N/A
 - 10.5 **Incompatible materials:** Mineral acids, Organic acids, Oxidizing Agents, Reactive metals, Sodium or Calcium Hypochlorite. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when this product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. Nitrites, nitrosating agents. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.
 - 10.6 **Hazardous decomposition products:** Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. Nitrosamines. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.
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11.0 TOXICOLOGICAL INFORMATION

- 11.1 **Likely routes of exposure:** Eye Contact, Skin Contact, Ingestion, Inhalation, Skin Absorption.
- 11.2 **Symptoms related to the physical, chemical and toxicological characteristics:**
 - Ingestion:** Ingestion may cause gastrointestinal irritation or ulceration. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.
 - Skin Contact:** Prolonged or widespread skin contact is not likely to result in absorption of toxic amounts. Irritation:
 - Skin:** Brief contact may cause skin irritation. Symptoms may include pain, severe local redness and tissue damage. Skin contact has caused allergic skin reactions in certain sensitized individuals.
 - Eyes:** May cause pain disproportionate to the level of irritation to eye tissues. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur if left untreated.
 - Inhalation:** May cause allergic respiratory response. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
- 11.3 **Delayed and immediate effects and also chronic effects from short and long term exposure:**

Carcinogen: This product contains no known or suspected human carcinogens in concentrations above 0.1%

Mutagen: Results from a battery of short term genotoxicity tests on components of this product indicate mutagenic activity.

Reproductive Hazard: This Product contains no known materials or materials suspected of causing human reproductive hazards.

11.4 Numerical measures of toxicity:

This finished product has not been tested to determine individual toxicological/ecological limits. Individual components of this product have been independently tested by the raw material manufacturers and any known results have been presented below. The results for the individual components may not be representative of the toxicity of this finished product.

Ingredient Name	CAS No.	%	Test	Result	Route	Species
Benzyl Alcohol	100-51-6	15% - 20%	LD50	>1230 mg/kg	Oral	Rat
Triethylenetetramine	112-24-3	1% - 3%	LD50	2500 mg/kg	Oral	Rat

12.0 ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

No data available.

12.2 Persistence and degradability:

No Data Available

12.3 Bioaccumulative potential: N/A

12.4 Mobility in soil: N/A

12.5 Other adverse effects: N/A

13.0 DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Preferred method of disposal includes incineration under controlled conditions in accordance with all local and national laws and regulations. The generation of waste should be avoided or minimized wherever possible. Untreated material is not suitable for disposal. Waste, even small quantities, should never be poured down drains, sewers or watercourses. Waste must be disposed of in accordance with federal, state and local environmental control regulations. This material, when properly mixed and cured with its resin component at the proper mix ratio, may be safely landfilled.

Contaminated packaging: Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container only after it has been properly emptied.

14.0 TRANSPORT INFORMATION

14.1 UN number: Not Regulated

14.2 UN proper shipping name: Liquid Plastic, NOI

14.3 Transport hazard class(es): Not Regulated

14.4 Packing group, if applicable: Not Regulated

14.5 Environmental hazards: N/A

14.6 Transport in bulk: N/A

14.7 Special precautions for user: N/A

15.0 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations:

Toxic Substances Control Act (TSCA): All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Toxic Substance Control Act (TSCA) 12(b) COMPONENT(S): None

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es): Irritant. Sensitizer

EPA SARA Title III Section 312 (40CFR370) hazard class: Immediate Health Hazard. Delayed Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are: None

CALIFORNIA PROPOSITION 65 Substances (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986") None

CANADA REGULATIONS

DSL: Included on Inventory.

WHMIS Hazard Classification: Class D Division 2B.

WHMIS Ingredient Disclosure List:

Benzyl Alcohol

Tetraethylenepentamine (TEPA)

Triethylenetetramine (TETA)

WHMIS Trade Secret Registry Number(s)

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. None

WHMIS SYMBOLS



16.0 OTHER INFORMATION

16.1 Date of Preparation: 08/29/2011

To the best of our knowledge, the information contained herein is accurate. Final determination of the suitability of any material is the sole responsibility of the users. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.