

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

PRODUCT NAME: 865 Hardener

CHEMICAL NAME: Polyamide/Amine Solution

MANUFACTURER: CASS POLYMERS OF MICHIGAN, INC.
815 WEST SHEPHERD STREET
CHARLOTTE MI 48813 USA

INFORMATION PHONE: (248) 588-2270

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Materials Information System (United States)

Health	2
Flammability	3
Physical Hazard	0

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

Material Composition

Component	CAS.NO	EINECS/ELINCS No.	Percent (mass)
Benzyl alcohol	100-51-6	202-859-9	15% - 20%
Benzene-1,3-dimethaneamine (MXDA)	1477-55-0	216-032-5	1%
Tetraethylenepentamine (TEPA)	112-57-2	203-986-2	3% - 5%
Barium Sulfate	7727-43-7	231-784-4	40% -50%
Magnesium Silicate	14807-96-6	238-877-9	1% - 10%
DibutylPhthalate*	87-74-2	201-557-4	6.7%
Phenolic Resin	9003-35-4	Not Available	1% -5%
Amorphous Silica	7631-86-9	231-545-4	1%
Siloxanes and Silicones, di-Me, reaction products with Silica	67762-90-7	Not Available	<1%
Toluene*	108-88-3	203-625-9	0.4%
n-Butyl Acetate	123-86-4	204-658-1	0.4%
n-Butanol*	71-36-3	200-751-6	0.4%
Methyl Ethyl Ketone*	78-93-3	201-159-0	0.3%

*=Chronic Health Hazards Present

Hazardous Materials are listed if present in concentrations of 1.0% or higher. Materials posing a possible Chronic Health Risk are listed at concentrations of 0.1% or higher. Materials listed in section 2 are not necessarily hazardous. See section 8-Exposure Controls/Personal Protection, and section 11-Toxicological Information for complete hazard/exposure limit information

3. HAZARDS IDENTIFICATION

****Emergency Overview****

Harmful in contact with skin. Harmful if swallowed. Toxic by inhalation. Components of the product may affect the nervous system. Severe respiratory irritant. Severe skin irritant. Severe eye irritant. May cause sensitization by skin contact. May cause harm to the unborn baby. Possible risk of impaired fertility.

EC Classification(s): T-Toxic; F-Flammable; N-Harmful to the Environment

EC Risk Phrase(s): R10: Flammable
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation and in contact with skin and if swallowed.
R36/38: Irritating to eyes and skin
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation
R51/53: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
R63: Possible harm to the unborn baby
R62: Possible risk of impaired fertility
R67: Vapors may cause drowsiness and dizziness

(See Section 15-REGULATORY INFORMATION for complete risk phrases.)

ROUTES OF EXPOSURE

Eye Contact
Skin Contact
Ingestion
Inhalation

HEALTH HAZARDS

May cause damage to kidneys, lungs, liver, nerves and blood.

Inhalation :

Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system. Toxic by inhalation. May cause damage to kidneys, lungs, liver, nerves and blood.

Eye contact :

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 can cause the perception of "blue haze" or "fog" around lights, although this is a temporary effect and has no known residual effect. Causes eye irritation.

Skin contact :

If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Causes skin irritation. May cause damage to kidneys, lungs, liver, nerves and blood.

Ingestion :

Harmful if swallowed. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Skin disorders, Allergies, kidney, blood and liver disorders

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER

This product contains no OSHA, ACGIH, NTP or IARC listed carcinogens in concentrations of 0.1 percent or greater.

4. FIRST AID MEASURES

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Inhalation

Move effected persons to fresh air; if effects occur, consult a physician.

Skin Contact

Continued and thorough washing in flowing water for at least 15 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Destroy contaminated leather items.

Eye Contact

Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

Ingestion

If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a physician or medical personnel. Do not give anything by mouth to an unconscious person.

Note to Physician

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING PRECAUTIONS

Extinguishing Media

Water fog or fine spray. Carbon dioxide. Alcohol resistant foam. Dry chemical fire extinguishers.

Hazardous Combustion Products

May generate toxic or irritating combustion products. Sudden reaction and fire may occur if product is mixed with an oxidizing agent.

Protection of Firefighters

Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves.)

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear adequate personal protective equipment, see Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.

Methods of Cleaning Up

Large spills: Contain with dike. Pump into suitable and properly labeled containers.

Small spills: Dilute with water and recover or use non-combustible absorbent material/sand and shovel into appropriate containers.

7. HANDLING AND STORAGE

STORAGE

Keep away from: oxidizers. Keep in cool, dry, ventilated storage areas and in closed containers.

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).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hazardous Component Control Parameters –

Component	CAS. No.	EINECS	Percent	Exposure Limits	Source
Amorphous Silica	7631-86-9	231-545-4	<1%	2.4 mg/m ³ TWA respirable dust, 10 mg/m ³ TWA total inhalable dust	OES/EH40 ACGIH
Benzyl alcohol	100-51-6	202-859-9	15% - 20%	10 ppm (44.2 mg/m ³) TWA	ACGIH
Toluene*	108-88-3	203-625-9	0.4%	200ppm TWA 50ppm TLV	OSHA ACGIH
n-Butanol*	71-36-3	200-751-6	0.4%	100ppm TWA 50ppm TLV	OSHA ACGIH
Methyl Ethyl Ketone*	78-93-3	201-159-0	0.3%	200ppm TWA 200ppm TLV	OSHA ACGIH
DibutylPhthalate*	87-74-2	201-557-4	6.7%	5 mg/m ³ TWA 5 mg/m ³ 8 hr PEL	ACGIH OSHA

-No Further Data Available-

EYE PROTECTION

Chemical safety glasses. 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. Nitrile rubber gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

RESPIRATORY PROTECTION

A cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors may be appropriate. Always ensure proper ventilation when using this product.

PROTECTIVE CLOTHING

Long sleeved clothing.

ENGINEERING CONTROLS

No specific controls needed. Heated material

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.

NOTICE: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Thin Paste
Color:	Purple to Lavender
Odor:	Solvent Odor
Specific gravity :	1.26 – 1.38
Vapor pressure:	Not Determined
Boiling point/range :	Not Determined
Freezing point/range :	Not Determined
Water solubility :	Liquid components are soluble in water
pH :	Not Determined
Flash point :	-2°C(28°F)
Auto-ignition temp. :	>300 deg.C

Flammability-LFL :	Not Determined
Flammability-UFL :	Not Determined
% volatile:	8% (105.6g/Liter)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable

CONDITIONS TO AVOID (if unstable)

Not applicable

INCOMPATIBILITY (Materials to Avoid)

Oxidizing Agents (i.e. perchlorates, nitrates etc.). Sodium or Calcium Hypochlorite. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials).

Carbon Monoxide in a fire. Carbon Dioxide in a fire. Irritating and toxic fumes at elevated temperatures.

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

11. TOXICOLOGICAL INFORMATION

Acute toxicity

This finished product has not been tested to determine individual toxicological/ecological limits. Individual components of this mixture 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
DibutylPhthalate*	87-74-2	6.7%	LD50	8000mg/kg	Oral	Rat
			LC50	4250 mg/m ³	Inhalation	Rat
			LD50	3050 µL/kg	Interaperitoneal	Rat
			LD50	>20mL/kg	Dermal	Rabbit

-No Further Data Available-

Ingestion

This material should not be considered toxic due to ingestion.

Skin Contact

Prolonged or widespread skin contact is not likely to cause immediate toxic effects. Possible risk of chronic effects with long-term exposure.

Irritation

Skin

Skin contact has caused allergic skin reactions in certain sensitized individuals.

Eyes

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 can cause the perception of "blue haze" or "fog" around lights, although this is a temporary effect and has no known residual effect. Causes eye irritation.

Inhalation

Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system. Toxic by inhalation. May cause damage to kidneys, lungs, liver, nerves and blood.

Chronic Exposure

Carcinogen

This material does not contain any materials listed by OSHA, ACGIH, NTP or IARC as a carcinogen.

Mutagen

This material contains **DIBUTYL PHTHALATE** (CAS# 84-74-2), a substance that has caused DNA and other cell damage to human tissues in laboratory tests.

Reproductive Hazard

This material contains **DIBUTYL PHTHALATE** (CAS# 84-74-2), a substance that has caused reproductive problems and birth defects in laboratory animals.

12. ECOLOGICAL INFORMATION**Persistence/degradability**

This material contains components that show little or no evidence of biodegradability. Caution should be taken to prevent release to the environment. See Section 13 for further information.

Ecotoxicity Data:

Chemical Name	CAS No.	%	Test	Concentration	Result	Species
Dibutyl Phthalate	84-74-2	6.7%	LC50	0.92 mg/L	96 hr	Fathead Minnow
			EC50	3.4 mg.L	48 hr	Daphnid

-No Further data available-

Individual components of this mixture have been independently tested by the raw material suppliers and any known results have been presented above. The results for the individual components may not be representative of the ecological toxicity of this finished product. This finished product has not been tested to determine individual toxicological/ecological limits. Caution should be taken to prevent release to the environment. See Section 13 for further information.

13. DISPOSAL CONSIDERATIONS**Disposal**

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. TRANSPORT INFORMATION**Land/Sea/Air/Rail**

Proper Shipping Name: Resin Solution
 UN Number: UN-1866
 Hazard Class: 3
 Packing Group: II

15. REGULATORY INFORMATION**US FEDERAL 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)

Dibutyl Phthalate (CAS# 84-74-8) 6.7%

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

Irritant. Sensitizer. Corrosive.

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

Dibutyl Phthalate (CAS# 84-74-8) 6.7%

STATE REGULATIONS

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

NEW JERSEY TRADE SECRET REGISTRY NUMBER(S)

None

CANADIAN REGULATIONS**DSL**

Included on Inventory.

WHMIS HAZARD CLASSIFICATION

D2B- Very Toxic Material Causing Other Toxic Effects

B2- Flammable Liquid

WHMIS INGREDIENT DISCLOSURE LIST

Dibutyl Phthalate (6.7% by mass)

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



EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS/ELINCS MASTER INVENTORY

Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.

T



F



N



EU Labeling Classification: T-Toxic; F-Flammable; N-Harmful to the Environment

Risk Phrases:	R10:	Flammable
	R39/23/24/25:	Toxic: danger of very serious irreversible effects through inhalation and in contact with skin and if swallowed.
	R36/38:	Irritating to eyes and skin
	R48/20:	Harmful: danger of serious damage to health by prolonged exposure through inhalation
	R51/53:	Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
	R63:	Possible harm to the unborn baby.
	R62:	Possible risk of impaired fertility
	R67:	Vapors may cause drowsiness and dizziness
Safety Phrases:	S53:	Avoid exposure - obtain special instructions before use.
	S45:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S61:	Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

Definitions:

ACGIH: American Conference of Government Industrial Hygienists

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

TLV: Threshold Limit Value

TWA: Time-Weighted Average

LD50: Lethal Dose (50%)-The minimum dose required for lethal effects in 50% of a given population of test specimens.

LC50: Lethal Concentration (50%)- The minimum concentration required for lethal effects in 50% of a given population of test specimens

NIOSH: National Institute for Occupational Safety and Health

WHMIS: Workplace Hazardous Material Information System

DSL: Domestic Substances List

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.