

Section 1 Identification

Product identifiers

Product name: Pro-Cast 132 Resin Part A

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Fast-Cast Polyurethane Isocyanate Component

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company

1101 Moore Road, Avon, OH 44011

Phone (440) 934-1902

FAX (440) 934-7200

HMIS	
H	3
F	2
R	1
PPE	
Sec. 8	

24 Hour emergency telephone number: CHEMTREC (800) 424-9300

Section 2 Hazard Identification

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Skin irritation, Category 2

Skin sensitization, Category 1

Eye irritation, Category 2B

Respiratory sensitization, Category 1

Acute toxicity (Inhalation), Category 4

Specific target organ toxicity, repeated exposure Category 1 (Respiratory Tract)

Specific target organ toxicity, single exposure Category 3 (Respiratory System)

Aspiration hazard, Category 1

Chronic Aquatic Toxicity, Category 4

GHS Label elements, including precautionary statements

Hazard pictograms



Signal word

Danger

Hazard statements

Harmful if inhaled.

May cause respiratory irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause damage to organs (Respiratory) through prolonged or repeated exposure if inhaled.

Causes skin and eye irritation.

May cause an allergic skin reaction.

May be fatal if swallowed and enters airways.

Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

Do not breathe mist, vapors or spray.

Section 2 Hazard Identification continued

Wear protective gloves/eye protection/face protection.
In case of inadequate ventilation wear respiratory protection
Wash skin and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Response

If on skin: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs get medical attention.
If inhaled: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms get medical attention.
If in eyes: Rinse continuously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical attention.
If swallowed: Immediately call a poison center and seek medical attention.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

Dispose of contents and container to an appropriate waste site in accordance with local and national regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS

None known

Section 3 Composition/Information on Ingredients

Ingredient	CAS Number	Concentration (%)
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	15 - 30
Polymeric diphenylmethane diisocyanate (pMDI)	9016-87-9	5 - 15
Di-iso-propylnaphthalene	38640-62-9	5 - 15
N-Methylpyrrolidone	872-50-4	<0.1
Cumene	98-82-8	<0.01

Section 4 First Aid Measures

If inhaled

Move person into fresh air. If not breathing, give artificial respiration. The onset of respiratory symptoms may be delayed for several hours after exposure. Get medical attention if irritation develops.

In case of skin contact

Wash thoroughly with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing and shoes before reuse.

In case of eye contact

Flush eyes with water for at least 15 minutes. Get medical attention immediately.

If swallowed

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

Section 4 First Aid Measures continued**Most important symptoms and effects, both acute and delayed**

Eye contact : Causes eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. Repeated inhalation of vapor at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing.

Skin contact : Causes skin irritation. May cause sensitization by skin contact.

Ingestion : May cause irritation of the gastrointestinal tract. Risk of lung edema if swallowed and enters airway.

Notes to physician : Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours.

Section 5 Fire-Fighting Measures**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

High volume water jet

Special hazards arising from the chemical

Fire or high heat may produce hazardous decomposition products: carbon dioxide, carbon monoxide, oxides from nitrogen, dense black smoke

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Closed containers may rupture under extreme heat or when contents are contaminated with water. Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Apply water from a safe distance, since reactions between water and hot diisocyanates can be vigorous.

Section 6 Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

Avoid breathing vapors, mist or gas.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Use an inert absorbent (e.g. sand, silica gel, sawdust, universal binder). Sweep up or shovel into a suitable containers for disposal.

Section 7 Handling and Storage**Precautions for safe handling**

Use normal precautions when handling combustible materials. Do not breathe fumes or vapor.

Do not allow material to contact skin. Provide appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Store at ambient temperatures in closed containers. Do not heat this material above the flash point. Incompatible with water, alcohols, amines, bases, and acids.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Ingredient	OSHA		ACGIH	
	PEL	STEL	TWA	STEL
4,4'-Diphenylmethane Diisocyanate	0.2 ppm	Not available	0.005 ppm	Not available

Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits.

Personal protective equipment

Eye/face protection

Safety glasses equipped with side shields or goggles.

Skin protection

Hand protection

Chemical-resistant, impervious gloves. Contaminated gloves should be replaced.

Body protection

Prevent skin contact when handling material.

Respiratory protection

The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.

Safety stations

Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

General hygienic practices

Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

Appearance	Opaque tan liquid
Odor	Mild earthy, musty
Odor threshold	No data available
pH	No data available
Melting or freezing point	No data available
Initial boiling point/boiling range	No data available
Flash point (COC)	130°C (266°F)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density (g/cc)	1.70±0.05
Water solubility	Insoluble-slowly reacts with water to produce CO ₂

Section 9 Physical and Chemical Properties continued

Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Approximately 1000 cP at room temperature
VOC Content	0.84 lb/gal
% Volatile	<5%

Section 10 Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Polymerization may occur. Avoid contact with moisture or other material, which react with isocyanates. May occur at temperatures above 400°F (204°C)

Conditions to avoid

Heat and open flames.

Incompatible materials

Water, alcohols, amines, metal compounds, bases, and acids

Hazardous decomposition products

Thermal oxidative decomposition can produce carbon monoxide, carbon dioxide, oxides of nitrogen, dense black smoke, isocyanate, isocyanic acid, and other undetermined compounds.

Section 11 Toxicological Information

Information on toxicological effects

Acute oral toxicity	LD50, Rat >10,000 mg/kg (Polymeric MDI)
Acute inhalation toxicity	LC50, Rat 0.49 mg/L (Polymeric MDI)
Acute dermal toxicity	LD50, Rabbit >9,400 mg/kg (Polymeric MDI)
Skin corrosion/irritation	Mild skin irritant
Serious eye damage/eye irritation	Moderate eye irritant
Respiratory or skin sensitization	Skin sensitizer and respiratory sensitizer
Germ cell mutagenicity	No data available
Carcinogenicity	
IARC	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
Reproductive toxicity	Not expected to be a hazard
Specific target organ toxicity	Single exposure May cause respiratory irritation
Specific target organ toxicity	Repeated exposure Respiratory system
Aspiration toxicity	May be fatal if swallowed or enters airway.

Section 12 Ecological Information

Ecotoxicity	Product:	No data available
	Specified substances:	
	Di-iso-propylnaphthalene	EC50 (Daphnia 1): 0.16 mg/L
Persistence and degradability	Product:	No data available
	Specified substances:	
	Polymeric (MDI):	Not degradable
Bioaccumulative potential	Product:	No data available
	Specified substances:	
	Polymeric (MDI):	Does not bioaccumulate
Mobility in soil	Product:	No data available
	Specified substances:	No data available

Section 13 Disposal Considerations

Contact a licensed contractor for detailed recommendations
Follow applicable Federal, state, and local regulations.

Section 14 Transport Information

DOT Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
TDG Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
IMDG Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
IATA Proper Shipping Name:	Liquid Resin N.O.I Not Regulated

Section 15 Regulatory Information

US Federal Regulations

Toxic Substance Control Act: All ingredients listed on TSCA Inventory.
CERCLA Reportable Quantity (RQ): 4,4'-Diphenylmethane Diisocyanate (5,000 lb.),
SARA Sec 302 Extremely Hazardous Substances: None present in regulated quantities.
SARA Sec. 311/312 Codes: Acute Health Hazard, Chronic Health Hazard
SARA Sec. 313 Toxic Chemicals (40 CFR 372): 4,4'-Diphenylmethane Diisocyanate,
Polymeric Diphenylmethane Diisocyanate, Cumene, and N-Methylpyrrolidone

US State Regulations

California Prop 65: ⚠ WARNING: This product can expose you to Cumene and N-Methylpyrrolidone, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Section 16 Other Information**Disclaimer**

The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict of liability arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Section 1 Identification

Product identifiers

Product name: Pro-Cast 132 Hardener Part B

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Fast-Cast Polyurethane Component

Details of the supplier of the safety data sheet

Freeman Manufacturing and Supply Company
1101 Moore Road, Avon, OH 44011
Phone (440) 934-1902
FAX (440) 934-7200

HMIS	
H	1
F	2
R	0
PPE	
Sec. 8	

24 Hour emergency telephone number: CHEMTREC (800) 424-9300

Section 2 Hazard Identification

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Eye irritation, Category 2
Flammable liquid, Category 4
Chronic aquatic toxicity: Category 4

GHS Label elements, including precautionary statements

Hazard pictograms



Signal word

Warning

Hazard statements

Combustible liquid.
Causes eye irritation.

Precautionary statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces.
Do not breathe mist, vapors or spray.
Wear protective gloves/eye protection/face protection.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response

If on skin: Remove contaminated clothing. Wash thoroughly soap and water.
If skin irritation or rash occurs get medical attention.
If in eyes: Rinse continuously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Storage

Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Disposal

Dispose of contents and container to an appropriate waste site in accordance with local and national regulations.

Section 2 Hazard Identification continued

Hazards not otherwise classified (HNOC) or not covered by GHS
None known

Section 3 Composition/Information on Ingredients

Ingredient Name	CAS Number	Concentration (%)
Polyether polyols	Proprietary mixture of 25214-63-5, 9051-49-4, 25322-69-4	10 - 30
Di-iso-propylnaphthalene	38640-62-9	5 - 15
Distillates (petroleum) hydrotreated light	64742-47-8	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Xylene mixture	1330-20-7	<0.1
Cumene	98-82-8	<0.1
N-Methylpyrrolidone	872-50-4	<0.1

Section 4 First Aid Measures

If inhaled

Move person into fresh air. If not breathing, give artificial respiration. Get medical attention if irritation develops.

In case of skin contact

Wash thoroughly with soap and water. Remove contaminated clothing and shoes.
Get medical attention if symptoms occur. Wash clothing and shoes before reuse.

In case of eye contact

Flush eyes with water for at least 15 minutes. Get medical attention immediately.

If swallowed

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water.
Get medical attention if symptoms appear.

Most important symptoms and effects, both acute and delayed

Eye contact: Causes eye irritation.

Inhalation: May cause irritation

Skin contact: Causes skin irritation

Ingestion: May cause irritation of the gastrointestinal tract.

Notes to physician: Symptomatic treatment and supportive therapy as indicated.

Section 5 Fire-Fighting Measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

High volume water jet

Special hazards arising from the substance or mixture

Fire or high heat may produce hazardous decomposition products: carbon dioxide, carbon monoxide, and other aliphatic fragments which have not been determined.

Section 5 Fire-Fighting Measures continued

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, or mist. For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Use an inert absorbent (e.g. sand, silica gel, sawdust, universal binder).

Sweep up or shovel into a suitable containers for disposal.

Section 7 Handling and Storage

Precautions for safe handling

Use normal precautions when handling combustible materials. Do not breathe fumes or vapor.

Do not allow material to contact skin. Provide appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Store at ambient temperatures in closed containers. Do not heat this material above the flash point. Incompatible with acids, and oxidizing agents.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Component	Value Type	Control parameters	Source
Polyether polyols	TWA	20 ppm	ACGIH
Distillates (petroleum) hydrotreated light	TWA	200 mg/m ³	ACGIH
1,2,4-Trimethylbenzene	TWA	25 ppm	ACGIH
Xylene mixture	TWA	100 ppm	ACGIH
Cumene	TWA	50 ppm	ACGIH
N-Methylpyrrolidone	TWA	10 ppm	US WEEL

Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits.

Personal protective equipment

Eye/face protection

Safety glasses equipped with side shields or goggles.

Skin protection

Hand protection

Chemical-resistant, impervious gloves. Contaminated gloves should be replaced.

Section 8 Exposure Controls/Personal Protection continued

Body protection

Prevent skin contact when handling material.

Respiratory protection

The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.

Safety stations

Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

General hygienic practices

Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

Appearance	Opaque gray liquid
Odor	Mild, of polyol
Odor threshold	No data available
pH	No data available
Melting or freezing point	No data available
Initial boiling point/boiling range	No data available
Flash point (COC)	66°C (150°F)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density (g/cc)	1.70±0.05
Water solubility	Slight
Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Approximately 2000 cP at room temperature
VOC Content	0.5 lb/gal
% Volatile	3-8%

Section 10 Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

None known

Conditions to avoid

Heat and open flames

Section 10 Stability and Reactivity continued

Incompatible materials

Water, alcohols, amines, bases, acids, and oxidizing agents

Hazardous decomposition products

Thermal oxidative decomposition can produce carbon monoxide, carbon dioxide, and other aliphatic fragments which have not been determined

Section 11 Toxicological Information

Information on toxicological effects

Acute oral toxicity LD50, Rat >10,000 mg/kg (Polyether polyol)

Acute inhalation toxicity No data available

Acute dermal toxicity LD50, Rat 10,000 mg.kg (Polyether polyol)

Skin corrosion/irritation Mild skin irritant

Serious eye damage/eye irritation Mild eye irritant

Respiratory or skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

Reproductive toxicity Not expected to be a hazard

Specific target organ toxicity **Single exposure:** None expected

Specific target organ toxicity **Repeated exposure:** None expected

Aspiration toxicity Not expected to be a hazard

Section 12 Ecological Information

Ecotoxicity	Product:	No data available
	Specified substances:	
	Di-iso-propylnaphthalene	EC50 (Daphnia 1): 0.16 mg/L
Persistence and degradability	Product:	No data available
	Specified substances:	
	Polyether Polyol	Biodegradation, aerobic, <50%, Exposure time: 28 d
Bioaccumulative potential	Product:	No data available
	Specified substances:	
	Polyether Polyol	No significant bioaccumulation
Mobility in soil	Product:	No data available
	Specified substances	
	Polyether Polyol	Adsorption is not expected

Section 13 Disposal Considerations

Do not dispose of waste into sewer. Do not contaminate waterways. Contact a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Section 14 Transport Information


DOT Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
TDG Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
IMDG Proper Shipping Name:	Liquid Resin N.O.I Not Regulated
IATA Proper Shipping Name:	Liquid Resin N.O.I Not Regulated

Section 15 Regulatory Information

US Federal Regulations

Toxic Substance Control Act: All ingredients listed on TSCA Inventory.
 CERCLA Reportable Quantity (RQ): Cumene (5,000 lb.), Xylene (100 lb.)
 SARA Sec 302 Extremely Hazardous Substances: None present in regulated quantities.
 SARA Sec. 311/312 Codes: Acute Health Hazard, Fire Hazard
 SARA Sec. 313 Toxic Chemicals (40 CFR 372.65): 1,2,4-Trimethylbenzene, Cumene, Xylene, and N-Methylpyrrolidone

US State Regulations

California Prop 65:  **WARNING:** This product can expose you to Cumene and N-Methylpyrrolidone, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Section 16 Other Information

Disclaimer

The following supersedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict of liability arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.