

Section 1 Identification

Product identifiers

Product name: Dyna-Cast® 20 Gray Part A

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

Identified uses: Fast-Cast Urethane Isocyanate Resin – For Professional Use Only

Details of the supplier of the safety data sheet

Freeman Manufacturing & Supply Company
1101 Moore Road, Avon, OH 44011
Phone (440) 934-1902
Email contactus@freemansupply.com

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

Section 2 Hazard Identification

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

Flammable liquid, Category 4
Respiratory sensitization, Category 1
Skin sensitization, Category 1
Skin irritation, Category 2
Eye irritation, Category 2B
Acute toxicity (Inhalation), Category 4
Specific target organ toxicity, single exposure Category 3 (Respiratory System)
Carcinogenicity, Category 2
Reproductive toxicity, Category 2

GHS label elements



Danger

Hazard statements

Combustible liquid.
Causes skin irritation
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May damage fertility or the unborn child.

Precautionary statements

Prevention: Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/eye protection/face protection.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection
Wash skin and face thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Do not eat, drink or smoke when using this product.

Section 2 Hazard Identification

Response: If on skin: Remove contaminated clothing. Wash skin with soap and water. 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 cool. 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

Chemical Name	CAS Number	Concentration (%)
Diphenylmethanediisocyanate (pMDI)	9016-87-9	5 - 20
4,4'-Methylenediphenyl diisocyanate (MDI)	101-68-8	5 - 20
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	5 - 20
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	1 - 5
Naphthalene	91-20-3	< 0.15
N-Methylpyrrolidone	872-50-4	< 0.15

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.

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.

Section 4 First Aid Measures

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 extinguishing measures that are appropriate to local circumstances and the surrounding environment. Foam, dry chemical, or carbon dioxide (CO₂).

Unsuitable extinguishing media

Water may be used if no other suitable media is available. Use water in copious quantities. Reaction between water and hot isocyanates may be vigorous.

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 isocyanates can be vigorous.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist or gas. Use personal protection see section 8.

Environmental precautions

Do not allow discharge of product into the environment. 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). Leave to react for at least 30 minutes. Sweep up or shovel into a suitable containers for disposal.

Section 7 Handling and Storage

Precautions for safe handling

Use only with adequate ventilation. Use normal precautions when handling combustible materials. Do not breathe fumes or vapor. Do not allow material to contact skin. Provide appropriate exhaust ventilation. Open containers carefully as content may be under pressure.

Conditions for safe storage

Keep container closed when not in use. Store at ambient temperatures in closed containers. Do not heat this material above the flash point. See Section 10 for incompatibilities.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Component	Value Type	Control Parameters	Source
4,4'-Methylenediphenyl diisocyanate	TWA	0.005 ppm	ACGIH
Naphthalene	TWA	10 ppm	ACGIH
N-Methylpyrrolidone	TWA	10 ppm	US WEEL

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.

Individual protection measures

Eye/face protection: Safety glasses equipped with side shields or goggles.

Hand protection: Chemical-resistant, impervious gloves. Consult glove manufacturer for suitability. 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)	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)	1.75
Water solubility	Insoluble-slowly reacts with water to produce CO ₂
Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available

Section 9 Physical and Chemical Properties

Viscosity	Approximately 1,500 cP at room temperature
VOC Content	0.30 lb/gal.
% Volatile	3-8
% Solids	> 50

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 >2,000 mg/kg (2,2,4-Trimethyl-1,3-pentanediol diisobutyrate)
Acute inhalation toxicity	LC50, Rat >0.12 mg/l, Exposure time: 6 hr, vapour (2,2,4-Trimethyl-1,3-pentanediol diisobutyrate)
Acute dermal toxicity	LD50, Rabbit >2,000 mg/kg (estimated) (2,2,4-Trimethyl-1,3-pentanediol diisobutyrate)
Skin corrosion/irritation	Skin irritant
Serious eye damage/eye irritation	Serious eye irritant
Respiratory or skin sensitization	Skin sensitizer and respiratory sensitizer
Germ cell mutagenicity	No data available
Carcinogenicity (IARC)	Naphthalene: 2B. Possibly carcinogenic to humans
Reproductive toxicity	May damage fertility or unborn child.
Specific target organ toxicity	
Single exposure	May cause respiratory irritation
Repeated exposure	Respiratory system
Aspiration toxicity	No data available.

Section 12 Ecological Information

Ecotoxicity

Product: No data available
Specified substance: 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate:
EC50 (Daohnia): > 1.3 mg/l, Exposure: 21 days

Persistence and degradability

No data available

Bioaccumulative potential

Product: No data available
Specified substance: 4,4'-Methylenediphenyl diisocyanate (MDI):
Cyprinus carpio (Carp) - 28 d - 0.0008 mg/l
Bioconcentration factor (BCF): 92

Mobility in soil

No data available

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

U.S. Federal Regulations

Chemical Name	CAS Number	CERCLA Reportable Quantity (RQ)
4,4'-Methylenediphenyl diisocyanate (MDI)	101-68-8	5,000 lb.
Naphthalene	91-20-3	100 lb.

SARA 302 Extremely Hazardous Substances: None present in regulated quantities.

SARA 313 Toxic Chemicals: The following components are subject to reporting levels established by SARA Title; III, Section 313: Diphenylmethanediisocyanate (pMDI), 4,4'-Methylenediphenyl diisocyanate, Naphthalene, and N-Methylpyrrolidone

U.S. State Regulations

California Proposition 65: ⚠️ **WARNING:** This product can expose you to Naphthalene 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

Inventories

Toxic Substance Control Act: All ingredients listed on TSCA Inventory.

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.

Issue Date: December 15, 2022
Revision Date: February 7, 2023

Section 1 Identification

Product identifiers

Product name: Dyna-Cast® 20 Gray Part B

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

Identified uses: Fast-Cast Urethane Polyol Hardener – For Professional Use Only

Details of the supplier of the safety data sheet

Freeman Manufacturing & Supply Company

1101 Moore Road, Avon, OH 44011

Phone (440) 934-1902

Email contactus@freemansupply.com

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

Section 2 Hazard Identification

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

Flammable liquid, Category 4

Eye irritation, Category 2A

Carcinogenicity, Category 2

GHS label elements



Warning

Hazard statements

Combustible liquid.

Causes serious eye irritation.

Suspected of causing cancer.

Precautionary statements

Prevention: Do not breath mist, vapors or spray.

Wear protective gloves/eye protection/face protection.

Wash skin thoroughly after handling.

Keep away from heat/sparks/open flames/hot surfaces.

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.

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

None known

Section 3 Composition/Information on Ingredients

Chemical Name	CAS Number	Concentration (%)
Polyether polyols	Proprietary mixture of 25214-63-5, 9051-49-4	10 - 45
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	5 - 10
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	5 - 10
Naphthalene	91-20-3	<0.65
N-Methylpyrrolidone	872-50-4	<0.05

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.

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.

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 isocyanates (Part A) can be vigorous.

Section 6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist or gas. Use personal protection see section 8.

Environmental precautions

Do not allow discharge of product into the environment. 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). Leave to react for at least 30 minutes. 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

Keep contain er closed when not in use. Store at ambient temperatures in closed containers. Do not heat this material above the flash point. Incompatible with acids, and oxidizing agents. See Section 10 for incompatibilities.

Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

Component	Value Type	Control Parameters	Source
Polyether polyols	TWA	20 ppm	ACGIH
Naphthalene	STEL	15 ppm	ACGIH

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.

Individual protection measures

Eye/face protection: Safety glasses equipped with side shields or goggles.

Hand protection: Chemical-resistant, impervious gloves. Consult glove manufacturer for suitability.

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 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)	1.75
Water solubility	Slight
Coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Approximately 2,000 cP at room temperature
VOC Content	0.50 lb/gal.
% Volatile	5-10%
% Solids	> 50

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

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 >2,000 mg/kg (Polyether polyol)
Acute inhalation toxicity	LC50, Rat >0.12 mg/l, Exposure time: 6 hr, vapour (2,2,4-Trimethyl-1,3-pentanediol diisobutyrate)
Acute dermal toxicity	LD50, Rat >2,000 mg/kg (Polyether polyol)

Section 11 Toxicological Information

Skin corrosion/irritation	Mild skin irritant
Serious eye damage/eye irritation	Moderate eye irritant
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	Not expected to be mutagenic in humans.
Carcinogenicity (IARC)	Naphthalene: 2B. Possibly carcinogenic to humans
Reproductive toxicity	Not expected to be a hazard
Specific target organ toxicity	
Single exposure	None expected
Repeated exposure	None expected
Aspiration toxicity	Not expected to be a hazard

Section 12 Ecological Information

Ecotoxicity	
Product:	No data available
Specified substances:	Polyether Polyol: LC50 (Fathead minnow (Pimephales promelas), 96 h): >1,000 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: Does not significantly biaccumulate
Mobility in soil	
Product:	No data available
Specified substances:	Polyether Polyol: Adsorption to solid soil phase 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

U.S. Federal Regulations

Chemical Name	CAS Number	CERCLA Reportable Quantity (RQ)
Naphthalene	91-20-3	100 lb.

SARA 302 Extremely Hazardous Substances: None present in regulated quantities.

SARA 313 Toxic Chemicals: The following components are subject to reporting levels established by SARA Title; III, Section 313: Naphthalene

U.S. State Regulations

California Proposition 65: ⚠️ **WARNING:** This product can expose you to Naphthalene 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

New Jersey and the Pennsylvania Right-to-Know lists: Barium sulfate

Inventories

Toxic Substance Control Act: All ingredients listed on TSCA Inventory.

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.

Issue Date: December 15, 2022

Revision Date: February 7, 2023