



Poly Prime
Safety Data Sheet
SDS Revision Date: 5/8/2024

1. Product and Company Identification

Product Name	Poly Prime
Product Codes	Poly Prime
Manufacturer	Concrete Floor Solutions, Inc.
Street Address	6801 Tilghman Street #113
City, State, Zip	Allentown, PA 18106
Information Phone	610-366-0208
Emergency Phone	Chemtrec 800-424-9300
Prepared By	Jason Kehnel
Date Revised	5/8/2024
Chemical Name or Class	Polyol Mixture

2. Hazards Identification

GHS Classification: Skin corrosion/irritation category 3
Serious eye damage/eye irritation category 2B

Hazard Statements:

H316 Causes mild skin irritation

H320 Causes eye irritation

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P264 + P265 Wash hands and skin thoroughly after handling. Do not touch eyes.

Response:

P305 + P351 + P338 if in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P317 if skin irritation occurs: Get emergency medical help.

P337 + P317 If irritation persists: Get emergency medical help.

Disposal: P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal, or international laws.

3. Composition/Information on Ingredients

Ingredient	CAS NO.	Weight %
Polyol	Proprietary	50-75
Xylene	1330-20-7	0.1-1
Naphtha, Hydrodesulfurized Heavy	64742-82-1	0.1-1
Polymer Dispersion (Defoamer)	Proprietary	0.1-1
3-Trimethoxysilylpropyl Methacrylate	2530-85-0	0.1-1
Zeolite, Cuboidal, Crystalline, Synthetic, Non-fibrous	1318-02-1	1-5
Limestone	1317-65-3	15-40
Crystalline Silica (Quartz)	14808-60-7	0.01-0.1
Methyl Amyl Ketone	110-43-0	0.01-0.1
Dibutyltin Dilaurate	77-58-7	0.01-0.1
Colors could include 0-15% of the following:		
Titanium Dioxide	13463-67-7	
Rutile Titanium Dioxide	1317-80-2	
Amorphous Silica	7631-86-9	
Ferric Oxide	1309-37-1	
C.I. Pigment Black 11	1317-61-9	

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

4. First Aid Measures

Eyes: Remove contact lenses, if present and easy to do so. Immediately flush with large amounts of water for at least 15 minutes while lifting upper and lower lids. If irritation persists, consult a specialist.

Skin: Flush skin with water for at least 15 minutes and remove all contaminated clothing immediately. Get medical attention if reddening or swelling occurs.

Ingestion: Do not induce vomiting. Keep the respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Inhalation: Remove victim to fresh air if effects persist and administer oxygen if necessary.

5. Fire Fighting Measures

Flammable limits in air (% by volume)	Upper: N/A Lower: N/A
Flash point	200+F
Method used	SETA FLASH
Extinguishing media	Foam, Alcohol Foam, CO2, Dry Chemical
Suitable extinguishing methods:	High volume water jet
Special fire fighting procedures	Toxic fumes will be evolved when this material is involved in a fire. A self contained breathing apparatus should be available for firefighters. Cool all fire exposed containers with water.
Unusual fire and explosion hazards	None known

6. Release Measures

Steps to be taken in case material is released or spilled - Avoid contact with material. Wear the appropriate safety equipment. Stop spill at source, dyke area to prevent spreading. Pump liquid to salvage tank. Take up the remainder with an absorbent such as clay and place in disposal containers.

7. Handling and Storage

Precautions to be taken in handling and storage - Avoid all skin contact. Avoid breathing vapors. Reseal partially used containers. Properly label all containers. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Observe good industrial hygiene and safe working practices.

Other precautions - Mixed materials contain the hazards of all the components, therefore, read the SDS of all components to become familiar with all hazards prior to using this product.

8. Exposure Controls/Personal Protection

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Chemical Identity	CAS#	Type	Exposure Limit	Source
Xylene	1330-20-7	8 hr TWA/PEL	100 ppm	OSHA
		8 hr TWA/TLV	100 ppm	ACGIH
		STEL/TLV	150 ppm	ACGIH
Alkanes and Cycloalkanes, C9-C15	Proprietary	8 hr TWA/TLV	1200 mg/m ³	ACGIH
Treated Silica	Proprietary	TWA	10 mg/m ³	ACGIH
		PEL	6 mg/m ³	OSHA
Methanol	67-56-1	PEL	260 mg/m ³ / 200 ppm	OSHA Z-1
		STEL	250 ppm	ACGIH
		TWA	200 ppm	ACGIH
		STEL	325 mg/m ³ / 250 ppm	NIOSH
		TWA	260 mg/m ³ / 200 ppm	NIOSH
Zeolite, Cuboidal, Crystalline, Synthetic, Non-fibrous	1318-02-1	TWA (respirable fraction)	1 mg/m ³	ACGIH
Limestone	1317-65-3	PEL (total dust)	15 mg/m ³	OSHA/ACGIH
		PEL (respirable)	5 mg/m ³	OSHA/ACGIH
Crystalline Silica (Quartz)	17808-60-7	PEL	0.025 mg/m ³	ACGIH
Methyl Amyl Ketone	110-43-0	TWA	50 ppm	ACGIH
		TWA	100 ppm / 465 mg/m ³	NIOSH REL
		TWA	100 ppm / 465 mg/m ³	OSHA Z-1
		TWA	100 ppm / 465 mg/m ³	OSHA P0
Dibutyltin Dilaurate	77-58-7	STEL	0.2 mg/m ³	ACGIH
		TWA	0.1 mg/m ³	ACGIH
		REL	0.1 mg/m ³	NIOSH

		PEL	0.1 mg/m ³	OSHA Z-1
Titanium Dioxide	13463-67-7	TWA	10 mg/m ³	ACGIH
		TWA (total dust)	10 mg/m ³	OSHA
		IDHL	5000 mg/m ³	NIOSH
Rutile Titanium Dioxide	1317-80-2	WEL/TWA 8 hr	10 mg/m ³	Manufacturer Knowledge
Amorphous Silica	7631-86-9	WEL/TWA 8 hr	2.4 mg/m ³	Manufacturer Knowledge
Ferric Oxide	1309-37-1	WEL/TWA 8 hr	5 mg/m ³	Manufacturer Knowledge
		STEL/15 min	10 mg/m ³	Manufacturer Knowledge

Respiratory protection - NIOSH approved respirator is required in the absence of proper environmental controls. For emergencies a self-contained breathing apparatus or a full face respirator is recommended.

Ventilation - Avoid breathing vapors. Ventilation must be sufficient to control vapors.

Protective gloves - impervious gloves - neoprene or rubber

Eye protection - Splash proof goggles or safety glasses with side shields.

Other protective clothing or equipment - Clean body covering clothing as well as apron, footwear equipment should be used as deemed necessary to avoid contact with the material.

Work hygienic practices - Observe good general hygienic practices.

9. Physical and Chemical Properties

Appearance and Odor - Medium viscosity colored liquid - negligible odor

Boiling Point or Range - N/A

Vapor Density (Air = 1) - N/A

Specific Gravity (H₂O = 1) - 1.14

Evaporation Rate - N/A

Solubility in Water - Negligible

Odor Threshold - N/A

pH - N/A

Melting Point/Freezing Point - N/A

Vapor Pressure - N/A

Auto Ignition Temperature - N/A

Partition Coefficient: n-octanol/water - N/A

Decomposition Temperature- N/A

10. Stability and Reactivity

Stability - stable under normal conditions

Conditions to Avoid (Stability) - avoid contact with open flames and all courses of ignitions and sparks

Incompatibility (Material to Avoid) - avoid contact with strong oxidizing agents or materials
Hazardous Decomposition or By-Products - carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)

Hazardous Polymerization - will not occur under normal use.

11. Toxicological Information

No data for the product itself.

Component data:

Component CAS# Proprietary

Acute Oral Toxicity: No acute oral toxicity

Acute Inhalation Toxicity: No acute inhalation toxicity

Acute Dermal Toxicity: No acute dermal toxicity

Carcinogenicity: Not known to be carcinogenic according to IARC, OSHA, NTP or ACGIH

Aspiration Toxicity: Not classified as an aspiration toxicity

Component Xylene CAS# 1330-20-7

Acute Oral Toxicity: LD50 (mouse, male) = 5,627 mg/kg. LD50 (female, mouse) = 5,251 mg/kg.

Acute Inhalation Toxicity: LC50 (rat) = 6,700 ppm.

Acute Dermal Toxicity: LD50 (rabbit) = > 4,200 mg/kg.

Skin corrosion/irritation: (rabbit) result: causes irritation to the skin.

Serious eye damage/eye irritation: (rabbit) result: causes irritation to the eyes.

Respiratory or skin sensitization: (mouse) result: not a skin sensitizer.

Germ Cell Mutagenicity: negative

Carcinogenicity:

IARC: No

OSHA: No

NTP: No

ACGIH: No

NIOSH: No

Reproductive toxicity (effects on fertility): negative

Reproductive toxicity (effects on fetal development): negative

Repeated dose Toxicity: Oral: LOAEL (rat, male) = 150 mg/kg. NOAEL (rat, female) = 150 mg/kg. Inhalation: NOAEC (beagle): >= 810 ppm.

Component Naphtha, hydrodesulfurized heavy CAS# 64742-82-1

Acute Oral Toxicity: LD50 (rat) > 5,000 mg/kg.

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Acute Inhalation Toxicity: LC50 (rat, 4h) > 7,630 mg/m³.

Acute Dermal Toxicity: LD50 (rabbit) > 2,000 mg/kg.

Skin corrosion/irritation: no data

Serious eye damage/eye irritation: causes irritation to the eyes.

Respiratory or skin sensitization: not a skin sensitizer.

Germ Cell Mutagenicity: negative

Carcinogenicity:

IARC: No

OSHA: No

NTP: No

ACGIH: No

NIOSH: No

Reproductive toxicity (effects on fertility): negative

Reproductive toxicity (effects on fetal development): negative

Repeated dose Toxicity: Oral: not expected to occur. Inhalation: NOAEC (rat): = 9,840 mg/m³.

Dermal: NOEL (rabbit) < 200 mg/kg

Component Polymer dispersion (defoamer) CAS# proprietary

Acute Oral Toxicity: Component of Polymer dispersion (defoamer): Organosiloxane – LD50, rat, oral > 17 g/kg.

Acute Dermal Toxicity: Component of Polymer dispersion (defoamer): Organosiloxane – LD50, rabbit, dermal > 2g/kg

Other information: Avoid contact with eyes and skin.

Component 3-Trimethoxysilylpropyl methacrylate CAS# 2530-85-0

Acute Oral Toxicity: LD50 (rat, male and female): > 2,000 mg/kg (no deaths occurred at this concentration)

Acute Inhalation Toxicity: LC50 (rat, male and female), 4h, dust/mist: > 2.28 mg/l, OECD 403 (no deaths occurred at this concentration)

Acute Dermal Toxicity: LD50 (rat, male and female): > 2,000 mg/kg, OECD 402 (no deaths occurred at this concentration)

Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization: Not known to be a skin or respiratory sensitizer.

Germ Cell Mutagenicity: No data

Carcinogenicity:

IARC: No

OSHA: No

NTP: No

ACGIH: No

(Potential byproduct) Methanol CAS#67-56-1

Hazard(s) not otherwise classified: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of as little as 30 mls.

Component Zeolite, cuboidal, crystalline, synthetic, non-fibrous CAS# 1318-02-1

Acute Oral Toxicity: LD50 (rat): > 5,110 mg/kg

Acute Inhalation Toxicity: LC0 (rat): > 3.35 mg/l, 4h

Acute Dermal Toxicity: LD50 (rabbit): > 2,000 mg/kg

Skin corrosion/irritation: (rabbit): no skin irritation.

Serious eye damage/eye irritation: (rabbit): no eye irritation.

Component Limestone CAS# 1317-65-3

Carcinogenicity:

IARC: No

OSHA: No

MSHA: No

Component Crystalline Silica (quartz) CAS# 14808-60-7

Carcinogenicity:

IARC: Group 1 - Carcinogen to humans when inhaled.

Component Methyl amyl ketone CAS# 110-43-0

Acute Oral Toxicity: LD50 (rat): 1,670 mg/kg. Is moderately toxic after single ingestion.

Acute Inhalation Toxicity: LC50 (rat): > 16.7 mg/l, 4h. Is moderately toxic after short term inhalation.

Acute Dermal Toxicity: LD50 (rat): > 2,000 mg/kg. Solvents may degrease the skin.

Skin corrosion/irritation: No skin irritation when tested on a rabbit for 4 hour duration.

Serious eye damage/eye irritation: No eye irritation when tested on a rabbit.

Respiratory or skin sensitization: Not a sensitizer when tested on lab animals.

Germ cell mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity:

IARC: No

OSHA: No

NTP: No

ACGIH: No

Reproductive Toxicity: No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

STOT – single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. May cause drowsiness or dizziness. Target organs – Central nervous system.

Component Dibutyltin Dilaurate CAS# 77-58-7

Acute Oral Toxicity: LD50 (rat): > 2,000 mg/kg
Acute Dermal Toxicity: LD50 (rabbit): > 2,000 mg/kg (estimated)
Skin corrosion/irritation: Causes severe skin burns and eye damage. Corrosive.
Serious eye damage/eye irritation: Causes serious eye damage. Corrosive.
Respiratory or skin sensitization: Skin sensitizer.
Germ Cell Mutagenicity: Ames test (OECD 471) – result was negative.
Carcinogenicity: No carcinogens present or none at regulated quantities.
Reproductive toxicity: Dibutyltin compounds have shown reproductive and immunotoxic effects in laboratory animals.
STOT – single exposure: Causes damage to the organs.
STOT – repeated exposure: Causes damage to organs through prolonged or repeated exposure.
Repeated dose Toxicity: Abnormalities noted at necropsy of animals treated with 2,000 mg/kg of dibutyltin dilaurate were hemorrhagic lungs, dark liver, dark kidneys, hemorrhage of gastric mucosa, and hemorrhage of the large and small intestines, enlarged bile duct and behavioral and central nervous system effects. Decreased fertility was seen in hens following dietary administration equal to 78 mg/kg.
Other hazards: Causes serious eye irritation. May cause an allergic skin reaction.
Component Titanium Dioxide CAS# 13463-67-7
Acute Oral Toxicity: LD50 (rat): > 5000 mg/kg
Acute Inhalation Toxicity: LC50 (rat): > 6.82 mg/L, 4h
Carcinogenicity:
IARC: Group 2B possibly carcinogenic to humans

12. Ecological Information

No data for the product itself.
Component data:
Component Xylene CAS# 1330-20-7
Toxicity to Fish: LC50 (*S. gairdneri*) = 2.6 mg/l, 96h
Toxicity to daphnia and other aquatic invertebrates: IC50 (*D. magna*) = 1 mg/l
Toxicity to algae/aquatic plants: EbC50 (*S. capricornutum*) = 2.2 mg/l, 24h
Chronic toxicity to fish: NOEC (*S. gairdneri*) > 1.3 mg/l
Chronic toxicity to daphnia and other aquatic invertebrates: NOEC = 0.96 mg/l, 7d
Toxicity to microorganisms: IC50 = 96 mg/l, 24h
Biodegradability: partially
Bioaccumulation: low potential
Mobility in Soil: high
Component Naphtha, hydrodesulfurized heavy CAS# 64742-82-1
Toxicity to Fish: LL50 (*O. mykiss*) = 10 mg/l, 96h
Toxicity to daphnia and other aquatic invertebrates: EL50 (*D. magna*) = 4.5 mg/l, 48h
Toxicity to algae/aquatic plants: EL50 (*P. subcapitata*) = 3.1 mg/l, 72h

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Chronic toxicity to fish: LL50 (P. promelas) = 5.2 mg/l, 48h

Chronic toxicity to daphnia and other aquatic invertebrates: NOELR (D. magna) = 2.6 mg/l, 21d

Toxicity to microorganisms: LL50 = 15.41 mg/l, 72h

Biodegradability: partially

Bioaccumulation: moderate potential

Mobility in Soil: moderate

Component Polymer dispersion (defoamer) CAS# proprietary

Toxicity to Fish:

Component of Polymer dispersion (defoamer): Treated silica – LC50: > 1,000 mg/l, 96h.

Component of Polymer dispersion (defoamer): Sodium Sulfate Decahydrate – LC50 (24-96h): 13,500-14,000 mg/l (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates:

Component of Polymer dispersion (defoamer): Treated silica - EC50: > 10,000 mg/l, 24h

Component of Polymer dispersion (defoamer): Sodium Sulfate Decahydrate – LC50 (96h): 4,547 mg/l (daphnia magna)

Component 3-Trimethoxysilylpropyl methacrylate CAS# 2530-85-0

Ecotoxicity: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to Fish: LC50, Brachydanio rerio (zebrafish), semi-static test, 96 Hour, > 100 mg/l, Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates: LC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants: ErC50, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate, > 100 mg/l, Directive 67/548/EEC, Annex V, C.3.

Biodegradability: 69%, 28d, OECD 301F. Material is expected to be readily biodegradable.

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water: 2.1 (OECD 107)

(Potential byproduct) Methanol CAS# 67-56-1

Partition coefficient: n-octanol/water: -0.77

Component Zeolite, cuboidal, crystalline, synthetic, non-fibrous CAS# 1318-02-1

Toxicity to Fish: LC50 (Pimephales promelas /fathead minnow): > 680 mg/l, 96h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna /Water flea): 2,808 mg/l, 24h

Toxicity to algae/aquatic plants: EC50 (scenedesmus subspicatus): > 328 mg/l, 96h

Component Methyl amyl ketone CAS# 110-43-0

Toxicity to Fish: LC50 (Pimephales promelas (fathead minnow)): 131 mg/l Exposure time: 96 h

Test Type: flow-through test.

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: Immobilization.

Toxicity to algae/aquatic plants: EC50 (Selenastrum capricornutum (green algae)): 98.2 mg/l
Exposure time: 72 h Test Type: static test.

Acute aquatic toxicity assessment: Harmful to aquatic life.

Chronic aquatic toxicity assessment: Harmful to aquatic life with long lasting effects.

Biodegradability: aerobic Inoculum: activated sludge Result: Readily biodegradable.

Biodegradation: 69 % Exposure time: 28 d. Chemical Oxygen Demand (COD): 2,420 mg/g.

Partition coefficient: n-octanol/water: log Pow: 1.98

Component Dibutyltin Dilurate CAS# 77-58-7

Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus), 72h: > 1 mg/l

Other adverse effects: Do not allow to enter soil, waterways or waste water canal.

Component Titanium Dioxide CAS# 13463-67-7

Ecotoxicity: low acute aquatic toxicity

Biodegradability: Not readily biodegradable

Bioaccumulation: Does not bioaccumulate

Mobility in Soil: Not mobile

13. Waste Disposal

Waste Disposal Method: Dispose of material in a waste disposal site in accordance with local, state, and federal law.

14. Transport Information

DOT: Not Regulated

IMO/IMDG: Not Regulated

15. Regulatory Information

No data for the product itself.

Component data:

Component Polyol CAS# proprietary

State Regulations – CAS# 8001-79-7 is listed on the Pennsylvania and New Jersey Right to Know Lists.

National Regulations – In compliance with TSCA, DSL, AICS, NZIoC, ENCS, KEIC, PICCS and IECSC chemical inventory lists.

Component Xylene CAS# 1330-20-7

RQ=100 lbs. SARA 313 toxic chemical. TSCA listed or exempt.

Component Polymer dispersion (defoamer) CAS# proprietary

Chemical Inventories: complies with or listed on TSCA, AICS, DSL, IECSC, EINECS, METI, KECL, PICCS inventories.

Component 3-Trimethoxysilylpropyl methacrylate CAS# 2530-85-0

Listed on the Pennsylvania Right to Know List. In compliance with TSCA, AICS, DSL, IECSC, ENCS, ECL, New Zealand Inventory & PICCS.

(Potential byproduct) Methanol CAS# 67-56-1

Listed on the CERCLA Hazardous Substance List (40 CFR 302.4). SARA 313 TRI chemical. A listed chemical in the Clean Air Act Section 112 Hazardous Air Pollutants (HAPs) List. Included on the Massachusetts, New Jersey, Pennsylvania & Rhode Island Right To Know Substance Lists. (California Proposition 65 WARNING) Is known to the State of California to cause birth defects or other reproductive harm. Is a listed substance on US California Proposition 65 – Carcinogens & Reproductive Toxicity.

Component Zeolite, cuboidal, crystalline, synthetic, non-fibrous CAS# 1318-02-1

National Chemical Inventories: On or in compliance with the following: TSCA, AICS, DSL, KEIC, PICCS, IECSC, NZIoC.

Component Methyl amyl ketone CAS# 110-43-0

B3: Combustible liquid. Does not contain any components with CERCLA RQ. Is a fire and acute health hazard. Not a SARA 302 chemical or a SARA 313 chemical. Does not contain any chemicals listed by the US Clean Air Act. Does not contain any hazardous substances or toxic pollutants listed under the US Clean Water Act. Is listed on Massachusetts, Pennsylvania, and New Jersey Right to Know. Is not a California Prop 65 Chemical. Is in compliance with TSCA, DSL, AICS, NZIoC, ENCS, KEIC, PHIL and IECSC national chemical inventory lists.

Component Dibutyltin Dilaurate CAS# 77-58-7

State Regulations: Listed on the Rhode Island Right to Know.

Chemical Inventories: Included on TSCA & DSL.

Component Titanium Dioxide CAS# 13463-67-7

Complies with the following chemical inventories: TSCA, DSL, EINECS, ENCS, IECSC, KECL, PICCS, AICS, NZIoC, TCSI. California Proposition 65 Warning - Known to the State of California to cause cancer or birth defects. Listed on the Massachusetts, New Jersey and Pennsylvania Right To Know Lists.

Component C.I. Pigment Black CAS# 1317-61-9

Listed on the Pennsylvania Right to Know List. TSCA listed.

16. Other Information

DISCLAIMER: The information contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

1. Product and Company Identification

Product Name	Poly Prime Part B
Product Codes	Poly Prime Part B
Manufacturer	Concrete Floor Solutions, Inc.
Street Address	6801 Tilghman Street #113
City, State, Zip	Allentown, PA 18106
Information Phone	610-366-0208
Emergency Phone	Chemtrec 800-424-9300
Prepared By	Jason Kehnel
Date Revised	5/8/2024
Chemical Name or Class	MDI Isocyanate

2. Hazards Identification

GHS Classification: Sensitization respiratory - category 1, STOT repeated exposure - category 2, Carcinogenicity category 2, serious eye damage/eye irritation - category 2A, acute toxicity inhalation - category 4, STOT single exposure respiratory tract irritation - category 3, skin corrosion/irritation category 2, sensitization skin - category 1

Hazard Statements:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H373 Causes damage to organs through prolonged or repeated exposure.

H351 Suspected of causing cancer.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

Signal Word: DANGER

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use.

P203 Obtain, read and follow all safety instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 + P265 Wash skin thoroughly after handling. Do not touch your eyes.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 Wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P317 IF eye irritation persists: Get emergency medical help.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P318 If exposed or concerned, get medical advice.

P319 Get medical help if you feel unwell.

P342 + P316 IF experiencing respiratory symptoms: Get emergency medical help immediately.

P333 + P317 IF SKIN irritation or rash occurs: Get emergency medical help.

P362 + P364 take off contaminated clothing and wash it before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

3. Composition/Information on Ingredients

Ingredient	CAS NO.	Weight %
Methylenediphenyl Diisocyanate, Isomers and Homologues	9016-87-9	>=99

Section 3 Notes: CAS #101-68-8 is an MDI isomer and part of CAS #9016-87-9

4. First Aid Measures

Eyes: Flush eyes with water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Get immediate medical assistance.

Skin: Skin contact will normally cause no more than irritation but wash affected areas with soap and water or a polyglycol based skin cleanser and remove contaminated clothing promptly.

Ingestion: Do not induce vomiting. Wash out your mouth with water. Move the exposed person to a fresh air area. Get medical attention immediately if symptoms occur.

Inhalation: Remove victim to fresh air and administer oxygen if necessary. Obtain medical assistance. Treatment is symptomatic for primary irritation or bronchospasm.

Notes to physicians or first aid providers: this material may be a potent pulmonary sensitizer which causes bronchospasm even in patients without prior airway hyperreactivity. Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts. conjunctival irritation, skin inflammation and gastrointestinal disturbances occur soon after exposure. pulmonary symptoms include cough, burning, substernal pain and dyspnoea. Some cross sensitivity occurs between different isocyanates. Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line. treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids. activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion. mydriatics, systemic analgesics and topical antibiotics (sulamyd) may be used for corneal abrasions. There is no effective therapy for sensitized workers.

Section 4 Notes:

isocyanates cause airway restriction in naïve individuals with the degree of response dependent on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. acute changes in lung functions, such as decreased fev1 may not represent sensitivity. personnel who work with isocyanates should have pre-placement medical examination and periodic examinations thereafter including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitization conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. further exposure must be avoided if a sensitivity to isocyanates has developed. **For severe exposure, medical follow-up should be monitored for at least 48 hours.**

5. Fire Fighting Measures

Flammable limits in air, (% by volume)	Upper: not available Lower: not available
Flash point:	200+F
Method used:	Seta flash
Suitable extinguishing media:	Foam, alcohol foam, co2, water fog
Unsuitable extinguishing media:	Direct water stream
Special fire fighting procedures:	Use full bunker gear including a positive pressure self contained breathing apparatus. Containers may burst under intense heat. If water is used, very large amounts are required. Reaction between water and isocyanate may be vigorous. Do not allow to enter drains or water courses.
Unusual fire and explosion hazards:	Combustible. Moderate fire hazard when exposed to heat or

flame. High temperatures can cause containers to pressurize. If containers rupture, flammable and highly toxic isocyanate vapor will be released.

Hazardous combustion products: Carbon dioxide, hydrogen cyanide, nitrogen oxides, carbon monoxide, isocyanates

Advice for Firefighters: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gasses (fumes) can accumulate. Water is not recommended but can be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use a direct water stream, it may spread fire. Fight fire from a protected location or safe distance. Consider using unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety devices or discoloration of the container. Move the container from the fire area if this is possible without hazard. Use water spray to cool fire exposed containers and fire affected zones until fire is out. Contain fire water runoff if possible. Fire water runoff, if not contained, may cause environmental damage.

6. Release Measures

Steps to be taken in case material is released or spilled: Isolate area. Keep unnecessary unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of the spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. If available, use foam to smother or suppress. Prevent from entering into soil, ditches, sewers, waterways, and/or groundwater. Do not use absorbent materials such as cement powder (may generate heat). Do not place it in sealed containers. Contain spilled material if possible. Absorb with materials such as: dirt, vermiculite, sand or clay. Wash the spilled site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: formulation 1: sodium carbonate 5-10%, liquid detergent 0.2-2%, water to make up to 100%; or formulation 2: concentrated ammonia solution 3-8%, liquid detergent 0.2-2%, water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure.

7. Handling and Storage

Precautions To Be Taken In Handling And Storage: store in a cool, dry, well ventilated place. seal all partially used containers. wash with soap and water before eating, drinking, smoking or using toilet facilities. mixed materials contain the hazards of all the components; therefore, read the sds's of all the components prior to using material. properly label all containers. store material between 59-95 f and keep dry.

Other Precautions: avoid contact with eyes and skin. avoid breathing vapors generated from the material. observe conditions of good general hygiene and safe working practices. contaminated leather articles can not be cleaned and must be discarded if contaminated with this product. wash all contaminated clothing prior to the reuse thereof.

8. Exposure Controls/Personal Protection

Methylenediphenyl Diisocyanate, Isomers, and Homologues	9016-87-9	Ceiling Limit	0.2 mg/m ³ / 0.02 ppm	OSHA Z-1
Diphenylmethane 4,4' Diisocyanate	101-68-8	Ceiling Limit	0.2 mg/m ³ / 0.02 ppm	OSHA Z-1
		TWA	0.005 ppm	ACGIH

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air purifying respirator equipped with an organic vapor cartridge and particle filter. For situations where the atmospheric levels may exceed the level for which an air purifying respirator is effective, or in emergency response situations where atmospheric levels are unknown, use a NIOSH approved positive pressure air supplied respirator.

Ventilation: Use only with adequate ventilation. General exhaust is usually sufficient to control vapors and exposure hazards. However, areas should be monitored to prevent exposure beyond the recommended OSHA, ACGIH limits. Exhaust systems should be designed to move the air away from the source of vapor generation and people working at this point.

Protective Gloves: Imperious gloves - polyethylene, ethyl vinyl alcohol laminate, butyl rubber

Eye protection: Splash goggles or glasses with side shields.

Other Protective Clothing or Equipment: Wear clothing that is chemically resistant to this material and other coverings as necessary such as apron, face shield, and appropriate footwear to avoid contact with material.

Work Hygienic Practices: Observe good general hygienic practices.

9. Physical and Chemical Properties

Appearance and odor: Brown liquid with musty odor

Boiling point or range: >204 C

Vapor density (air = 1): 3.24

Specific gravity (h₂o = 1): 1.23

Evaporation rate: N/A

Solubility in water: Negligible

Odor threshold: 0.4 oom based on literature for MDI

pH: N/A

Melting point/freezing point: forms crystals below 10 C

Vapor pressure: <0.00001 mmHg at 25 C

Auto ignition temperature: > 600 C

Partition coefficient: n-octanol/water: reacts with water

Decomposition temperature: N/A

10. Stability and Reactivity

Stability: stable under recommended storage conditions

Conditions to avoid (stability): avoid excessive heat or open flames. Due to reaction with water, a hazardous buildup of pressure could result.

Incompatibility (material to avoid): can react vigorously with strong oxidizing agents and strong lewis acids or mineral acids, alcohols, bases, and water.

Hazardous decomposition or by-products: co, co₂, nitrogen oxides, hydrocarbons, and HCN

Hazardous polymerization: may occur at elevated temperatures in the presence of alkalies, tertiary amines and metal compounds

11. Toxicological Information

No data for the product itself.

Component data:

Component Methylene diphenyl diisocyanate, isomers and homologues CAS# 9016-87-9

Acute Oral Toxicity: LD₅₀ (rat): > 10,000 mg/kg

Acute Inhalation Toxicity: LC₅₀ (rat): 0.49mg/l, 4h, dust/mist

Acute Dermal Toxicity: LD₅₀ (rabbit): > 9,400 mg/kg

Skin corrosion/irritation: Prolonged contact may cause slight skin irritation with local redness. May stain skin.

Serious eye damage/eye irritation: May cause moderate eye irritation. May cause slight temporary corneal injury.

Respiratory or skin sensitization: Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization – may cause an allergic respiratory reaction. MDI concentrations below the exposure guidelines may cause an allergic respiratory reaction in individuals already sensitized. Asthma-like symptoms may include coughing, difficulty breathing, and tightness in the chest. Breathing difficulties could be life threatening.

Germ Cell Mutagenicity: Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other studies were negative. Animal mutagenicity studies were predominantly negative.

Carcinogenicity: Lung tumors have been observed in lab animals exposed to respirable aerosol droplets of MDI/polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory injury and lung injury. Current exposure guidelines are expected to protect against these effects.

Reproductive toxicity (effects on fertility): No data

Reproductive toxicity (effects on fetal development): In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

STOT – single exposure: May cause respiratory tract irritation via inhalation.

Repeated dose Toxicity: Tissue injury in the upper respiratory tract and lungs has been observed in lab animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Aspiration Toxicity: Not likely based on physical properties.

Component Diphenylmethane 4,4 diisocyanate CAS# 101-68-8

Acute Oral Toxicity: LD50 (rat): > 2,000 mg/kg. No deaths occurred at this concentration.

Acute Inhalation Toxicity: LC50 (rat): 2.24 mg/l, 1h, dust/mist

Acute Dermal Toxicity: LD50 (rabbit): > 9,400 mg/kg

Skin corrosion/irritation: Prolonged contact may cause moderate skin irritation with local redness. Repeated contact may cause moderate skin irritation with local redness. May stain skin.

Serious eye damage/eye irritation: May cause moderate eye irritation. May cause slight temporary corneal injury.

Respiratory or skin sensitization: Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization – may cause an allergic respiratory reaction. MDI concentrations below the exposure guidelines may cause an allergic respiratory reaction in individuals already sensitized. Asthma-like symptoms may include coughing, difficulty breathing, and tightness in the chest. Breathing difficulties could be life threatening.

Germ Cell Mutagenicity: Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other studies were negative. Animal mutagenicity studies were predominantly negative.

Carcinogenicity: Lung tumors have been observed in lab animals exposed to respirable aerosol droplets of MDI/polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory injury and lung injury. Current exposure guidelines are expected to protect against these effects.

Reproductive toxicity (effects on fertility): No data.

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Repeated dose Toxicity: Tissue injury in the upper respiratory tract and lungs has been observed in lab animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Aspiration Toxicity: Not likely based on physical properties.

12. Ecological Information

No data for the product itself.

Component data:

Methylenediphenyl diisocyanate, isomers and homologues CAS# 9016-87-9

Toxicity to Fish: LC50 (danio rerio / zebrafish): > 1,000 mg/l, static test, 96h (OECD 203)

Toxicity to daphnia and other aquatic invertebrates: EC50 (daphnia magna / water flea): > 1,000 mg/l, static test, 24h (OECD 202)

Toxicity to algae/aquatic plants: NOEC (desmodesmus subspicatus / green algae): 1,640 mg/l, static test, 72h (OECD 201)

Toxicity to soil-dwelling organisms: EC50 (Eisenia fetida / earthworm): > 1,000 mg/kg, 14d

Toxicity to microorganisms: EC50, activated sludge, static test, 3h, respiration rates: > 100 mg/l

Toxicity to terrestrial plants: EC50 (avena sativa / oats): 1,000 mg/l, growth inhibition. EC50 (lactuca sativa / lettuce): 1,000 mg/l, growth inhibition.

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas with appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life. 0% biodegradation, 28d (OECD 302C).

Bioaccumulation: BCF=92 (Cyprinus carpio / carp), 28d

Mobility in Soil: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Component Diphenylmethane 4,4'-diisocyanate CAS# 101-68-8

Toxicity to Fish: LC50 (danio rerio / zebra fish): > 1,000 mg/l, static test, 96h (OECD 203)

Toxicity to daphnia and other aquatic invertebrates: EC50 (daphnia magna / water flea): > 1,000 mg/l, static test, 24h (OECD 202)

Toxicity to algae/aquatic plants: NOEC (desmodesmus subspicatus / green algae): 1,640 mg/l, static test, 72h (OECD 201)

Toxicity to soil-dwelling organisms: EC50 (Eisenia fetida / earthworm): > 1,000 mg/kg, 14d

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Bioaccumulation: BCF=92 (Cyprinus carpio / carp), 28d

Mobility in Soil: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

13. Waste Disposal

Waste Disposal Method: Dispose of material as a hazardous waste according to federal, state, and local regulations.

14. Transport Information

DOT: Not Regulated (single containers less than 5,000 pounds)

IMO/IMDG: Not Regulated

15.Regulatory Information

Product and Component Information: SARA Title III Sections 311 & 312 – Acute toxicity, respiratory or skin sensitization, STOT (single or repeated exposure), Skin corrosion/irritation, serious eye damage/eye irritation. SARA Title III Section 313 listed chemicals include (pMDI CAS# 9016-87-9) and (MDI CAS# 101-68-8). Components are on the TSCA list. Canadian Regulations: This product has been classified in accordance with the hazard criteria of the CPR (controlled Products Regulations) Class D-1A Material Causing immediate and serious toxic effects (very toxic). Class D-2A Material causing other toxic effects (Very Toxic). Class D-2b material causing other toxic effects (Toxic).

16.Disclaimer

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

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