POLYMER NATION

Safety Data Sheet
SP-15 Part A

SECTION 1: Identification

1.1 GHS Product identifier

Product name	SP-15 Part A
Product number	E2
Brand	Polymer Nation

1.2 Other means of identification
Epoxy Resin

1.3 Recommended use of the chemical and restrictions on use
100% solids thickened epoxy resin for use in crack fill and patching applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number
800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Eye damage/irritation, Cat. 2A
- Toxic to reproduction, Cat. 1B
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H360	May damage fertility or the unborn child [effect, route]
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei

Concentration	80 - 90 % (weight)
EC no.	500-033-5
CAS no.	25068-38-6
Index no.	603-074-00-8

- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5%

2. Alkyl epoxy resin

Concentration	1 - 10 % (weight)
EC no.	271-846-8
CAS no.	68609-97-2
Index no.	603-103-00-4

- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1

H315	Causes skin irritation
H317	May cause an allergic skin reaction

3. Component 3 (trade secret)*

Concentration	1 - 10 % (weight)

- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1

H315	Causes skin irritation
H317	May cause an allergic skin reaction

4. TETRAHYDROFURFURYL ALCOHOL

Concentration	1 - 5 % (weight)
EC no.	202-625-6
CAS no.	97-99-4
Index no.	603-061-00-7

- Toxic to reproduction, Cat. 1B
- Eye damage/irritation, Cat. 2A

H319	Causes serious eye irritation
H360Df	May damage the unborn child. Suspected of damaging fertility.

5. Siloxanes and Silicones, di-Me, reaction products with silica

Concentration	1 - 5 % (weight)
CAS no.	67762-90-7

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
In case of skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before

	removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
In case of eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
If swallowed	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Personal protective equipment for first-aid responders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media: Do not use water jet

5.2 Specific hazards arising from the chemical
Carbon oxides
carbon dioxide
carbon monoxide
halogenated compounds

In a fire or if heated, a pressure increase will occur and the container may burst.

5.3 Special protective actions for fire-fighters
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or
diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an

approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei (CAS: 25068-38-6 EC: 500-033-5)

2. Alkyl epoxy resin (CAS: 68609-97-2 EC: 271-846-8)

3. TETRAHYDROFURFURYL ALCOHOL (CAS: 97-99-4 EC: 202-625-6)

8.2 Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Respiratory protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal hazards
No data available

Environmental exposure controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	opaque/cloudy
Odor	mild
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	395.6 F/202 C
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	485 F/251.6 C
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	>5000 cP
Solubility	ND
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.13
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
None under normal use conditions.

10.4 Conditions to avoid
Strong oxidizer

10.5 Incompatible materials

No specific data.

10.6 Hazardous decomposition products
Carbon dioxide, carbon monoxide, oxides of nitrogen, other undetermined compounds

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Alkyl epoxy resin
LD50 Oral - Rat - 1163 mg/kg
LD50 Skin - Rabbit - 1130 mg/kg
LC50 Inhalation - Rat - >11.3 mg/l
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN)
LD50 Skin - Rat - 2,000 mg/kg
LD50 Oral - Rat - 11,400 mg/kg
TETRAHYDROFURFURYL ALCOHOL
LD50 Oral - Rat - >2000 mg/kg

Siloxanes and Silicones, di-Me, reaction products with silica
LD50 Oral - Rat - >5000 mg/kg
LD50 Skin - Rabbit - >2000 mg/kg
LC50 Inhalation
Remarks: Due to the product's physical characteristics, no suitable testing procedure is available.

Skin corrosion/irritation
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),
Rabbit
Result: Score 1.5 - 2
Remarks: Skin - Erythema/Eschar 404
Acute Dermal Irritation/Corrosion
Rabbit
Result: Score 1.0 - 1.5
Remarks: Skin - Edema 404
Acute Dermal Irritation/Corrosion
Rabbit - 24 hrs
Remarks: Skin -Moderate irritant

Serious eye damage/irritation
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),
Rabbit
Remarks: eyes - Mild irritant

Respiratory or skin sensitization
Skin sensitizer

In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study.

Germ cell mutagenicity
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),

Remarks: Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution.

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

Reproductive toxicity
Based on available data, classification data are not met

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
Treated Synthetic Amorphous Silica: Repeated dose toxicity: oral (rat) , 5 to 8 weeks, no significant treatment-related adverse effects at doses of up to 2000 mg/kg/d. (ECETOC JACC Report 051- Synthetic Amorphous Silica, September 2006).
Synthetic Amorphous Silica: Repeated dose toxicity: oral (rat), 2 weeks to 6 months, no significant treatment-related adverse effects at doses of up to 8% silica in the diet. Repeated dose toxicity: inhalation (rat), 13 weeks, Lowest Observed Effect Level (LOEL) =1.3mg/m3based on mild reversible effects in the lungs. Repeated dose toxicity: inhalation (rat), 90 days, LOEL = 1 mg/m3 based on reversible effects in the lungs and effects in the nasal cavity. Repeated dose toxicity using SAS 400 m2/g: inhalation (rat), 90 days, fully reversible inflammation related to clearance processes following recovery period. NOAEC (lung) based on histopathology and inflammatory marker is 5 mg/m³

Aspiration hazard
No data available

SECTION 12: Ecological information

Toxicity
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
LC50 - Fish - 1.3 mg/l - 96 h
EC50 - Daphnia magna (water flea) - 2.1 mg/l - 48 h
LC50 - Algae - >11 mg/l - 72 h

Siloxanes and Silicones, di-Me, reaction products with silica
LC50 - Brachydanio rerio (zebrafish) - >10,000 mg/l - 96 hrs

Persistence and degradability
No data available on product

Bioaccumulative potential
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),

Remarks: LogPow 2.64 3.78
BCF 3-31 31.00
Potential - low

Mobility in soil
No data available on product.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging disposal
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 14: Transport information

DOT (US)
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)
Reportable quantity (RQ):
Marine pollutant: Yes
Poison inhalation hazard:

IMDG
UN Number: UN3082
Class: 9
Packing Group: III
EMS Number:
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

IATA
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
Chemical name: Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane
CAS number: 25068-38-6

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
CAS number: 25068-38-6

US EPA TSCA public inventory
Chemical name: EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
CAS number: 25068-38-6

Canadian Domestic Substances List (DSL)
Chemical name: Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
CAS number: 68609-97-2

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Alkyl epoxy resin
CAS number: 68609-97-2

US EPA TSCA public inventory
Chemical name: Alkyl epoxy resin
CAS number: 68609-97-2

Canadian Domestic Substances List (DSL)
Chemical name: Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-
CAS number: 17557-23-2

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Component 3
CAS number: 17557-23-2

US EPA TSCA public inventory
Chemical name: Component 3
CAS number: 17557-23-2

Pennsylvania Right To Know Components
Chemical name: 2-FURANMETHANOL, TETRAHYDRO-
CAS number: 97-99-4

Canadian Domestic Substances List (DSL)
Chemical name: 2-Furanmethanol, tetrahydro-
CAS number: 97-99-4

EU Cosmetics Prohibited Substances List, (EC) 2009/1223 Annex II
Chemical name/INN: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

US EPA TSCA public inventory
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

Canadian Domestic Substances List (DSL)
Chemical name: Silica, vitreous
CAS number: 60676-86-0

Canadian Domestic Substances List (DSL)
Chemical name: Siloxanes and Silicones, di-Me, reaction products with silica
CAS number: 67762-90-7

US EPA TSCA public inventory
Chemical name: Siloxanes and Silicones, di-Me, reaction products with silica
CAS number: 67762-90-7

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
SP-15 Part B

SECTION 1: Identification

1.1 GHS Product identifier

Product name	SP-15 Part B
Product number	H4
Brand	Polymer Nation

1.2 Other means of identification

Epoxy Hardener

1.3 Recommended use of the chemical and restrictions on use

100% solids clear epoxy hardener for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number

800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 4
- Acute toxicity, dermal, Cat. 4
- Eye damage/irritation, Cat. 1
- Sensitization, respiratory, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3
- Specific target organ toxicity (repeated exposure), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Eye damage/irritation, Cat. 2A
- Toxic to reproduction, Cat. 2
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1B

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word **Danger**

Hazard statement(s)

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child [effect, route]
H372	Causes damage to organs [organs] through prolonged or repeated exposure [route]
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. 4-TERT-BUTYL PHENOL

Concentration	25 - 50 % (weight)
EC no.	202-679-0
CAS no.	98-54-4
Index no.	604-090-00-8

- Toxic to reproduction, Cat. 2
- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

H315	Causes skin irritation
H318	Causes serious eye damage
H361f	
H410	Very toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	M=1

2. Xylylenediamine

Concentration	20 - 35 % (weight)
EC no.	216-032-5
CAS no.	1477-55-0

3. 1,3-Cyclohexanedimethanamine

Concentration	20 - 35 % (weight)
EC no.	219-941-5
CAS no.	2579-20-6

4. Benzyl alcohol

Concentration	10 - 25 % (weight)
EC no.	202-859-9
CAS no.	100-51-6
Index no.	603-057-00-5

- Acute toxicity, oral, Cat. 4
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1B

H302	Harmful if swallowed
H317	May cause an allergic skin reaction

H319	Causes serious eye irritation
SCLs/M-factors/ATEs	oral: ATE = 1200 mg/kg bw

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If inhaled, remove to fresh air.
In case of skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Take victim immediately to hospital.
In case of eye contact	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. If easy to do, remove contact lens, if worn. Continue rinsing eyes during transport to hospital. Protect unharmed eye. Keep eye wide open while rinsing.
If swallowed	Rinse mouth with water. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Personal protective equipment for first-aid responders	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical
Burning produces irritant fumes.

Do not allow run-off from fire fighting to enter drains or water courses.

Benzyl alcohol: Carbon oxides

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
Unsuitable extinguishing media: Do NOT use water jet.

In the event of fire and/or explosion do not breathe fumes.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep people away from and upwind of spill/leak.

6.2 Environmental precautions
Local authorities should be advised if significant spillages cannot be contained.
Do not allow contact with soil, surface or ground water.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Wear personal protective equipment.
Avoid inhalation, ingestion and contact with skin and eyes.
Use only with adequate ventilation.
Do not breathe vapours/dust.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not
be employed in any process in which this mixture is being used.

7.2 Conditions for safe storage, including any incompatibilities
Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability: No decomposition if stored and applied as directed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Xylylenediamine (CAS: 1477-55-0)
TWA [m-Xylene-alpha,alpha'-diamine] (Inhalation): 0.1 Peak limitation mg/m3; AU (AU/SWA)
Other advisory: Sk

2. Benzyl alcohol (CAS: 100-51-6 EC: 202-859-9)
TWA: 10 ppm
US WEEL

3. Xylylenediamine (CAS: 1477-55-0)
TWA [m-Xylene-alpha,alpha'-diamine] (Inhalation): 0.1 Peak limitation mg/m3; AU (AU/SWA)
Other advisory: Sk

TWA [m-Xylene-alpha,alpha'-diamine] (Inhalation): 0.1 Peak limitation mg/m3; AU (AU/SWA)
Other advisory: Sk

8.2 Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker
exposure to airborne contaminants below any recommended or statutory limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection
Hand protection : Chemical-resistant, impervious gloves complying with an approved
standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that
the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures,
consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal hazards
No data available

Environmental exposure controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	clear
Color	straw; yellow
Odor	amine
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	> 201 F/> 94 C
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	< 200 cP @ 72 F
Solubility	water - negligible
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.02 g/cm3
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
None under normal use conditions.

10.4 Conditions to avoid
Strong oxidizer

10.5 Incompatible materials
No specific data.

Benzyl alcohol: Strong oxidizing agents

10.6 Hazardous decomposition products
Carbon dioxide, carbon monoxide, oxides of nitrogen, other undetermined compounds

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Benzyl alcohol: Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
1,3-Cyclohexanedimethanamine
LD50 Oral - > 300 mg/kg
LD50 Skin - 1700 mg/kg
LC50 Inhalation - > 20 mg/l
4-TERT-BUTYL PHENOL
LD50 Oral - 3250 mg/kg
LD50 Skin - 2520 mg/kg
LC50 Inhalation - > 20 mg/l
Benzyl alcohol
LD50 Oral - Rat - 1,230 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Excitement. Behavioral:Coma.
OECD Test Guideline 404 Skin - Rabbit - 24 h
Result: No skin irritation
LD50 Oral - Rat - 1,620 mg/kg
Xylylenediamine
LD50 Oral - 930
LD50 Skin - > 2000 mg/kg
LC50 Inhalation - > 10 mg/l

Skin corrosion/irritation
Irritating to skin.

Causes severe skin burns.

May cause skin irritation.

Serious eye damage/irritation
Risk of serious damage to eyes.

Causes eye irritation.

Causes serious eye irritation.

Respiratory or skin sensitization
May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

Germ cell mutagenicity
No data available

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

Reproductive toxicity
May damage fertility or the unborn child

Specific target organ toxicity (STOT) - single exposure
May cause drowsiness or dizziness.

Specific target organ toxicity (STOT) - repeated exposure
May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
Benzyl alcohol
LC50 - Lepomis macrochirus (bluegill) - 10 mg/l - 96 h
LC50 - Pimephales promelas (fathead minnow) - 460 mg/l - 96 h
EC50 - Daphnia magna (water flea) - 55 mg/l - 24 h
LC50 Percutaneous - Lepomis macrochirus (Bluegill) - 10 mg/l - 96 h
LC50 Percutaneous - Pimephales promelas (fathead minnow) - 460 mg/l - 96 h

4-TERT-BUTYL PHENOL
LC50 - Pimephales promelas (fathead minnow) - 4.71-5.62 mg/l - 96 h

Persistence and degradability
Benzyl alcohol
Biotic/Aerobic - Exposure time 28 d
Result: Result: 92 - 96 % - Readily biodegradable
Aerobic Biochemical oxygen demand - Exposure time 7 d
Result: Result: 92 - 96 % - Readily biodegradable
(OECD Test Guideline 301C)

Bioaccumulative potential
4-TERT-BUTYL PHENOL
Pseudokirchneriella subcapitata (green algae)
Result: Bioconcentration factor (BCF): 34 (static)

Other adverse effects
Toxic to aquatic organisms

SECTION 13: Disposal considerations

Disposal methods

Product disposal
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging disposal
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 14: Transport information

DOT (US)
UN Number: UN2735
Class: 8
Packing Group: II
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (1,3-Cyclohexanedimethanamine)
Reportable quantity (RQ):
Marine pollutant: no
Poison inhalation hazard:

IMDG
UN Number: UN2735
Class: 8
Packing Group: II
EMS Number:
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (1,3-Cyclohexanedimethanamine)

IATA
UN Number: UN2735
Class: 8
Packing Group: II
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (1,3-Cyclohexanedimethanamine)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Pennsylvania Right To Know Components
Chemical name: BENZENEMETHANOL
CAS number: 100-51-6

Canadian Domestic Substances List (DSL)
Chemical name: Benzenemethanol
CAS number: 100-51-6

Water hazard class (WGK, Germany)
Chemical name: Benzyl alcohol, CAS number: 100-51-6
WGK hazard class: WGK 1 - Slightly hazardous to water

EU Cosmetics Allowed preservatives List, (EC) 2009/1223 Annex V
Chemical name: Benzyl alcohol
CAS number: 100-51-6

EU Cosmetics Restricted Substances List, (EC) 2009/1223 Annex III
Chemical name/INN: Benzyl alcohol
CAS number: 100-51-6

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Benzyl alcohol
CAS number: 100-51-6

US EPA TSCA public inventory
Chemical name: Benzyl alcohol
CAS number: 100-51-6

Canadian Domestic Substances List (DSL)
Chemical name: Phenol, 4-(1,1-dimethylethyl)-
CAS number: 98-54-4

EU Cosmetics Prohibited Substances List, (EC) 2009/1223 Annex II
Chemical name/INN: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

EU SVHC Candidate List for Authorisation
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

US EPA TSCA public inventory
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

Water hazard class (WGK, Germany)
Chemical name: 4-TERT-BUTYL PHENOL, CAS number: 98-54-4
WGK hazard class: WGK 3 - Extremely hazardous to water

New Jersey Right To Know Components
Common name: m-XYLENE alpha, alpha'-DIAMINE
CAS number: 1477-55-0

Pennsylvania Right To Know Components
Chemical name: 1,3-BENZENEDIMETHANAMINE
CAS number: 1477-55-0

Canadian Domestic Substances List (DSL)
Chemical name: 1,3-Benzenedimethanamine
CAS number: 1477-55-0

US EPA TSCA public inventory
Chemical name: Xylylenediamine
CAS number: 1477-55-0

Water hazard class (WGK, Germany)
Chemical name: Xylylenediamine, CAS number: 1477-55-0
WGK hazard class: WGK 2 - Hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: 1,3-Cyclohexanedimethanamine
CAS number: 2579-20-6

US EPA TSCA public inventory
Chemical name: 1,3-Cyclohexanedimethanamine
CAS number: 2579-20-6

Water hazard class (WGK, Germany)
Chemical name: 1,3-Cyclohexanedimethanamine, CAS number: 2579-20-6
WGK hazard class: WGK 2 - Hazardous to water

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: MXDA
CAS number: 1477-55-0

SARA 302 Components
No chemicals in this material [Benzyl alcohol] are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material [Benzyl alcohol] does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard for: Benzyl alcohol.

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: BENZYL ALCOHOL
CAS number: (none)

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
F-01 Part A

SECTION 1: Identification

1.1 GHS Product identifier

Product name	F-01 Part A
Product number	E1
Brand	Polymer Nation

1.2 Other means of identification
Epoxy Resin

1.3 Recommended use of the chemical and restrictions on use
100% solids clear epoxy resin for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number
800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Eye damage/irritation, Cat. 2A
- Toxic to reproduction, Cat. 1B
- Skin corrosion/irritation, Cat. 2

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H319	Causes serious eye irritation
H360	May damage fertility or the unborn child [effect, route]
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash … thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei

Concentration	80 - 90 % (weight)
EC no.	500-033-5
CAS no.	25068-38-6
Index no.	603-074-00-8

- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5%

2. Alkyl epoxy resin

Concentration	1 - 10 % (weight)
EC no.	271-846-8
CAS no.	68609-97-2
Index no.	603-103-00-4

- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1

H315	Causes skin irritation
H317	May cause an allergic skin reaction

3. Component 3 (trade secret)*

Concentration	1 - 10 % (weight)

- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1

H315	Causes skin irritation
H317	May cause an allergic skin reaction

4. TETRAHYDROFURFURYL ALCOHOL

Concentration	1 - 5 % (weight)
EC no.	202-625-6
CAS no.	97-99-4
Index no.	603-061-00-7

- Toxic to reproduction, Cat. 1B
- Eye damage/irritation, Cat. 2A

H319	Causes serious eye irritation
H360Df	May damage the unborn child. Suspected of damaging fertility.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
In case of skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
In case of eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

If swallowed	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Personal protective equipment for first-aid responders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media: Do not use water jet

5.2 Specific hazards arising from the chemical

Carbon oxides
carbon dioxide
carbon monoxide
halogenated compounds

In a fire or if heated, a pressure increase will occur and the container may burst.

5.3 Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is

inadequate. Put on appropriate personal protective equipment.

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or
diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed

until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei (CAS: 25068-38-6 EC: 500-033-5)

2. Alkyl epoxy resin (CAS: 68609-97-2 EC: 271-846-8)

3. TETRAHYDROFURFURYL ALCOHOL (CAS: 97-99-4 EC: 202-625-6)

8.2 Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal hazards

No data available

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental

protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	clear
Odor	mild
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	395.6 F/202 C
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	485 F/251.6 C
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	<1000 cP
Solubility	ND
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.12
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
None under normal use conditions.

10.4 Conditions to avoid
Strong oxidizer

10.5 Incompatible materials
No specific data.

10.6 Hazardous decomposition products
Carbon dioxide, carbon monoxide, oxides of nitrogen, other undetermined compounds

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Alkyl epoxy resin
LD50 Oral - Rat - 1163 mg/kg

LD50 Skin - Rabbit - 1130 mg/kg
LC50 Inhalation - Rat - >11.3 mg/l
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
LD50 Skin - Rat - 2,000 mg/kg
LD50 Oral - Rat - 11,400 mg/kg
TETRAHYDROFURFURYL ALCOHOL
LD50 Oral - Rat - >2000 mg/kg

Skin corrosion/irritation
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN)
Rabbit
Result: Score 1.5 - 2
Remarks: Skin -Erythema/Eschar 404
Acute Dermal Irritation/Corrosion
Rabbit
Result: Score 1.0 - 1.5
Remarks: Skin -Edema 404
Acute Dermal Irritation/Corrosion
Rabbit - 24 hrs
Remarks: Skin -Moderate irritant

Serious eye damage/irritation
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN)
Rabbit
Remarks: eyes - Mild irritant

Respiratory or skin sensitization
Skin sensitizer

In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study.

Germ cell mutagenicity
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),

Remarks: Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution.

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

Reproductive toxicity
Based on available data, classification data are not met

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: Ecological information

Toxicity
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
LC50 - Fish - 1.3 mg/l - 96 h
EC50 - Daphnia magna (water flea) - 2.1 mg/l - 48 h
LC50 - Algae - >11 mg/l - 72 h

Persistence and degradability
No data available on product

Bioaccumulative potential
EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN),

Remarks: LogPow 2.64 3.78
BCF 3-31 31.00
Potential - low

Mobility in soil
No data available on product.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging disposal
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 14: Transport information

DOT (US)
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)
Reportable quantity (RQ):
Marine pollutant: Yes
Poison inhalation hazard:

IMDG
UN Number: UN3082
Class: 9
Packing Group: III
EMS Number:
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

IATA
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
Chemical name: Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane
CAS number: 25068-38-6

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
CAS number: 25068-38-6

US EPA TSCA public inventory
Chemical name: EPOXYRESIN, reaction product: BISPHENOL-A(EPICHLOROHYDRIN), average molecule wei
CAS number: 25068-38-6

Canadian Domestic Substances List (DSL)
Chemical name: Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
CAS number: 68609-97-2

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Alkyl epoxy resin
CAS number: 68609-97-2

US EPA TSCA public inventory
Chemical name: Alkyl epoxy resin
CAS number: 68609-97-2

Canadian Domestic Substances List (DSL)
Chemical name: Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-
CAS number: 17557-23-2

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Component 3
CAS number: 17557-23-2

US EPA TSCA public inventory
Chemical name: Component 3
CAS number: 17557-23-2

Pennsylvania Right To Know Components
Chemical name: 2-FURANMETHANOL, TETRAHYDRO-
CAS number: 97-99-4

Canadian Domestic Substances List (DSL)
Chemical name: 2-Furanmethanol, tetrahydro-
CAS number: 97-99-4

EU Cosmetics Prohibited Substances List, (EC) 2009/1223 Annex II
Chemical name/INN: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

US EPA TSCA public inventory
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: TETRAHYDROFURFURYL ALCOHOL
CAS number: 97-99-4

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
F-00, -01 Standard Set Part B

SECTION 1: Identification

1.1 GHS Product identifier

Product name	F-00, -01 Standard Set Part B
Product number	H1
Brand	Polymer Nation

1.2 Other means of identification

Epoxy Hardener

1.3 Recommended use of the chemical and restrictions on use

100% solids clear epoxy hardener for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number

800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 4
- Acute toxicity, dermal, Cat. 4
- Eye damage/irritation, Cat. 1
- Sensitization, respiratory, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3
- Specific target organ toxicity (repeated exposure), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word **Danger**

Hazard statement(s)

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H372	Causes damage to organs [organs] through prolonged or repeated exposure [route]

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Concentration	25 - 50 % (weight)
EC no.	220-666-8
CAS no.	2855-13-2
Index no.	612-067-00-9

- Acute toxicity, oral, Cat. 4
- Skin corrosion/irritation, Cat. 1B
- Eye damage/irritation, Cat. 1
- Sensitization, skin, Cat. 1A

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
SCLs/M-factors/ATEs	Oral: ATE = 1030 mg/kg bw
	Skin Sens. 1A; H317: C ≥ 0,001 %

2. Benzyl alcohol

Concentration	25 - 50 % (weight)
EC no.	202-859-9
CAS no.	100-51-6
Index no.	603-057-00-5

- Acute toxicity, oral, Cat. 4
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1B

H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
SCLs/M-factors/ATEs	oral: ATE = 1200 mg/kg bw

3. Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer

Concentration	1 - 10 % (weight)
CAS no.	68609-08-5

4. Triethanolamine

Concentration	1 - 5 % (weight)
EC no.	203-049-8
CAS no.	102-71-6

5. 4-TERT-BUTYL PHENOL

Concentration	1 - 5 % (weight)
EC no.	202-679-0
CAS no.	98-54-4
Index no.	604-090-00-8

- Toxic to reproduction, Cat. 2
- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

H315	Causes skin irritation
H318	Causes serious eye damage
H361f	
H410	Very toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	M=1

6. Xylylenediamine

Concentration	1 - 5 % (weight)
EC no.	216-032-5
CAS no.	1477-55-0

7. 1,3-Cyclohexanedimethanamine

Concentration	1 - 5 % (weight)
EC no.	219-941-5
CAS no.	2579-20-6

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If inhaled, remove to fresh air.
In case of skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Take victim immediately to hospital.
In case of eye contact	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. If easy to do, remove contact lens, if worn. Continue rinsing eyes during transport to hospital. Protect unharmed eye. Keep eye wide open while rinsing.
If swallowed	Rinse mouth with water. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Personal protective equipment for first-aid responders	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical
Burning produces irritant fumes.
Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
Unsuitable extinguishing media: Do NOT use water jet.

In the event of fire and/or explosion do not breathe fumes.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep people away from and upwind of spill/leak.

6.2 Environmental precautions
Local authorities should be advised if significant spillages cannot be contained.
Do not allow contact with soil, surface or ground water.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Wear personal protective equipment.
Avoid inhalation, ingestion and contact with skin and eyes.
Use only with adequate ventilation.
Do not breathe vapours/dust.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not
be employed in any process in which this mixture is being used.

7.2 Conditions for safe storage, including any incompatibilities
Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.

Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability: No decomposition if stored and applied as directed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Triethanolamine (CAS: 102-71-6 EC: 203-049-8)
PEL (Inhalation): 5 mg/m3; US (Cal/OSHA)
California permissible exposure limits for chemical contaminants (Title 8, Article 107)

TWA (Inhalation): 5 mg/m3; AU (AU/SWA)
Other advisory: Sen

2. Xylylenediamine (CAS: 1477-55-0)
TWA [m-Xylene-alpha,alpha'-diamine] (Inhalation): 0.1 Peak limitation mg/m3; AU (AU/SWA)
Other advisory: Sk

3. Benzyl alcohol (CAS: 100-51-6 EC: 202-859-9)
TWA: 10 ppm
US WEEL

8.2 Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker
exposure to airborne contaminants below any recommended or statutory limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection
Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal hazards
No data available

Environmental exposure controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	clear
Color	straw; yellow
Odor	amine
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	> 201 F/> 94 C
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	< 200 cP @ 72 F
Solubility	water - negligible
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.02 g/cm3
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
None under normal use conditions.

10.4 Conditions to avoid
Strong oxidizer

10.5 Incompatible materials
No specific data.

Benzyl alcohol: Strong oxidizing agents

Triethanolamine: Acids, Oxidizing agents

10.6 Hazardous decomposition products
Carbon dioxide, carbon monoxide, oxides of nitrogen, other undetermined compounds

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Benzyl alcohol: Other decomposition products - No data available
In the event of fire: see section 5

Triethanolamine: Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Benzyl alcohol: LD50 Oral - Rat - 1,230 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Excitement. Behavioral:Coma.
LD50 Oral - Rat - male - 1,620 mg/kg
Dermal: No data available
No data available

Triethanolamine
LD50 Oral - Mouse - 5,846 mg/kg
Remarks: Behavioral:Convulsions or effect on seizure threshold. Diarrhoea Kidney, Ureter, Bladder:Other changes.
LD50 Oral - Rat - 5,530 mg/kg
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Diarrhoea Skin and Appendages: Other: Hair.
LD50 Oral - Rabbit - 2,200 mg/kg
LD50 Oral - Guinea pig - 2,200 mg/kg
LD50 Skin - Rabbit - >22.5 g/kg

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE
LD50 Oral - Rat - 1030 mg/kg
LD50 Skin - Rat - >2000 mg/kg
LC50 Inhalation - Rat - 5.01 mg/l - 4 h

Skin corrosion/irritation
Causes severe burns

Benzyl alcohol: Benzyl alcohol
OECD Test Guideline 404 Skin - Rabbit - 24 h
Result: No skin irritation

Serious eye damage/irritation
Causes serious eye damage.

Benzyl alcohol: Benzyl alcohol
OECD Test Guideline 405 Eyes - Rabbit - 24 h
Result: Eye irritation

Respiratory or skin sensitization
Skin sensitisation-May cause an allergic skin reaction.

Respiratory sensitisation-Not classified based on available information.

Benzyl alcohol: No data available.

Germ cell mutagenicity
Not classified based on available information.

Benzyl alcohol: No data available.

Carcinogenicity
Not classified based on available information.

Benzyl alcohol: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Benzyl alcohol: No data available.

Summary of evaluation of the CMR properties

Benzyl alcohol: No data available.

Specific target organ toxicity (STOT) - single exposure
Not classified based on available information.

Benzyl alcohol: No data available.

Specific target organ toxicity (STOT) - repeated exposure
Not classified based on available information.

Benzyl alcohol: No data available.

Aspiration hazard
Not classified based on available information.

Benzyl alcohol: No data available.

SECTION 12: Ecological information

Toxicity
Benzyl Alcohol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 460 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: no

GLP: no

Toxicity to fish (Chronic toxicity): NOEC: 48.897 mg/l
Exposure time: 30 d
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 110 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test

Persistence and degradability
benzyl alcohol:
Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Biochemical oxygen demand
Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 14 d
Method: OECD Test Guideline 301C
Stability in water : Degradation half life: 9 yr

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 6.9 mg/l
Result: Not readily biodegradable.
Biodegradation: 8 %
Exposure time: 28 d
Method: Tested according to Directive 92/69/EEC.
Stability in water : Degradation half life (DT50): > 1 yr (25 °C) pH: 4 - 9
Hydrolysis: < 10 % at 50 °C(5 d)

Bioaccumulative potential
benzyl alcohol:
Bioaccumulation : Bioconcentration factor (BCF): 1.37
Remarks: Bioaccumulation is unlikely.
Partition coefficient: noctanol/water: log Pow: 1.05 (68 °F / 20 °C)

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 76.22
Remarks: Bioaccumulation is unlikely.
Partition coefficient: noctanol/water: log Pow: 0.99 (73 °F / 23 °C)
pH: 6.34

Mobility in soil
3-aminomethyl-3,5,5-trimethylcyclohexylamine:
Mobility : Medium: Air
Content: 0.02 %
Method: Calculation, Mackay Level I Fugacity Model

Medium: Water
Content: 99.83 %
Medium: Soil
Content: 0.08 %
Medium: Sediment
Content: 0.08 %
Distribution among environmental compartments: Koc: 928, log Koc: 2.97

SECTION 13: Disposal considerations

Disposal methods

Product disposal
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging disposal
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 14: Transport information

DOT (US)
UN Number: UN2735
Class: 8
Packing Group: II
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE)
Reportable quantity (RQ):
Marine pollutant: no
Poison inhalation hazard:

IMDG
UN Number: UN2735
Class: 8
Packing Group: II
EMS Number:
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE)

IATA
UN Number: UN2735
Class: 8
Packing Group: II
Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

New Jersey Right To Know Components
Common name: ISOPHORONEDIAMINE
CAS number: 2855-13-2

Canadian Domestic Substances List (DSL)
Chemical name: Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-
CAS number: 2855-13-2

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE
CAS number: 2855-13-2

US EPA TSCA public inventory
Chemical name: 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE
CAS number: 2855-13-2

Water hazard class (WGK, Germany)
Chemical name: 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE, CAS number: 2855-13-2
WGK hazard class: WGK 1 - Slightly hazardous to water

Pennsylvania Right To Know Components
Chemical name: BENZENEMETHANOL
CAS number: 100-51-6

SARA 302 Components
No chemicals in this material [Benzyl alcohol] are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material [Benzyl alcohol] does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard for: Benzyl alcohol.

Canadian Domestic Substances List (DSL)
Chemical name: Benzenemethanol
CAS number: 100-51-6

Water hazard class (WGK, Germany)
Chemical name: Benzyl alcohol, CAS number: 100-51-6
WGK hazard class: WGK 1 - Slightly hazardous to water

EU Cosmetics Allowed preservatives List, (EC) 2009/1223 Annex V
Chemical name: Benzyl alcohol

CAS number: 100-51-6

EU Cosmetics Restricted Substances List, (EC) 2009/1223 Annex III
Chemical name/INN: Benzyl alcohol
CAS number: 100-51-6

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Benzyl alcohol
CAS number: 100-51-6

US EPA TSCA public inventory
Chemical name: Benzyl alcohol
CAS number: 100-51-6

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: BENZYL ALCOHOL
CAS number: (none)

Canadian Domestic Substances List (DSL)
Chemical name: Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer
CAS number: 68609-08-5

US EPA TSCA public inventory
Chemical name: Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer
CAS number: 68609-08-5

Pennsylvania Right To Know Components
Chemical name: ETHANOL, 2,2',2''-NITRILOTRIS-
CAS number: 102-71-6

SARA 302 Components
No chemicals in this material [Triethanolamine] are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material [Triethanolamine] does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Chronic Health Hazard for: Triethanolamine.

Canadian Domestic Substances List (DSL)
Chemical name: Ethanol, 2,2',2''-nitrilotris-
CAS number: 102-71-6

Water hazard class (WGK, Germany)
Chemical name: Triethanolamine, CAS number: 102-71-6

WGK hazard class: WGK 1 - Slightly hazardous to water

US EPA TSCA public inventory
Chemical name: Triethanolamine
CAS number: 102-71-6

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: TRIETHANOLAMINE
CAS number: 102-71-6

Canadian Domestic Substances List (DSL)
Chemical name: Phenol, 4-(1,1-dimethylethyl)-
CAS number: 98-54-4

EU Cosmetics Prohibited Substances List, (EC) 2009/1223 Annex II
Chemical name/INN: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

EU SVHC Candidate List for Authorisation
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

US EPA TSCA public inventory
Chemical name: 4-TERT-BUTYL PHENOL
CAS number: 98-54-4

Water hazard class (WGK, Germany)
Chemical name: 4-TERT-BUTYL PHENOL, CAS number: 98-54-4
WGK hazard class: WGK 3 - Extremely hazardous to water

New Jersey Right To Know Components
Common name: m-XYLENE alpha, alpha'-DIAMINE
CAS number: 1477-55-0

Pennsylvania Right To Know Components
Chemical name: 1,3-BENZENEDIMETHANAMINE
CAS number: 1477-55-0

Canadian Domestic Substances List (DSL)
Chemical name: 1,3-Benzenedimethanamine
CAS number: 1477-55-0

US EPA TSCA public inventory
Chemical name: Xylylenediamine
CAS number: 1477-55-0

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: MXDA
CAS number: 1477-55-0

Water hazard class (WGK, Germany)
Chemical name: Xylylenediamine, CAS number: 1477-55-0
WGK hazard class: WGK 2 - Hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: 1,3-Cyclohexanedimethanamine
CAS number: 2579-20-6

US EPA TSCA public inventory
Chemical name: 1,3-Cyclohexanedimethanamine
CAS number: 2579-20-6

Water hazard class (WGK, Germany)
Chemical name: 1,3-Cyclohexanedimethanamine, CAS number: 2579-20-6
WGK hazard class: WGK 2 - Hazardous to water

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
SP-20 Part A

SECTION 1: Identification

1.1 GHS Product identifier

Product name	SP-20 Part A
Product number	SP20A
Brand	Polymer Nation

1.2 Other means of identification
Isocyanate resin

1.3 Recommended use of the chemical and restrictions on use
Resin component for flexible polyurethane resin; for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number

800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Acute toxicity, inhalation, Cat. 3
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Carcinogenicity, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer [route]
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Poly[oxy(methyl-1,2-ethanediyl)], alpha-hydro-omega-hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane

Concentration	50 - 99 % (weight)
CAS no.	39323-37-0

2. Titanium(IV) oxide

Concentration	< 5 % (weight)
EC no.	236-675-5
CAS no.	13463-67-7
Index no.	022-006-00-2

- Carcinogenicity, Cat. 2

H351	Suspected of causing cancer [route]

3. Iron oxide (Fe3O4)

Concentration	< 5 % (weight)
EC no.	215-168-2
CAS no.	1317-61-9

4. ISOPHORONE DIISOCYANATE

Concentration	< 3 % (weight)
EC no.	223-861-6
CAS no.	4098-71-9
Index no.	615-008-00-5

- Acute toxicity, inhalation, Cat. 3
- Specific target organ toxicity (single exposure), Cat. 3
- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Sensitization, skin, Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H411	Toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	*
	Resp. Sens. 1; H334: C ≥ 0,5 %
	Skin Sens.1; H317: C ≥ 0,5 %

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. In case of irregular breathing or respiratory arrest provide artificial respiration. Take affected persons out into the fresh air.
If inhaled	Supply fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek immediate medical advice.

In case of skin contact	Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.
In case of eye contact	Immediately remove contact lenses if possible. Rinse opened eye for several minutes under running water. Then consult a doctor.
If swallowed	Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms/effects, acute and delayed

Asthma attacks
Breathing difficulty
Allergic reactions
Nausea
Cramp
Dizziness
Headache
Profuse sweating
Disorientation
Cyanosis

4.3 Indication of immediate medical attention and special treatment needed, if necessary

If swallowed, gastric irrigation with added, activated carbon.
Contains isocyanates.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary oedema.
Medical supervision for at least 48 hours.
If blue colouring appears (lips, ear-lobes, finger-nails), give oxygen treatment as quickly as possible.
Treat skin and mucous membrane with antihistamine and corticoid preparations.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use fire extinguishing methods suitable to surrounding conditions.

5.2 Specific hazards arising from the chemical

During heating or in case of fire poisonous gases are produced.

5.3 Special protective actions for fire-fighters

Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

Further information

Cool endangered receptacles with water fog or haze.
No further relevant information available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use respiratory protective device against the effects of fumes/dust/aerosol.
Isolate area and prevent access.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Protect from heat.

6.2 Environmental precautions
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and materials for containment and cleaning up
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste.
Additional Spill Procedures/Neutralization: Neutralization solutions:
(1) Colorimetric Laboratories Inc. (CLI) decontamination solution.
(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% npropanol.
(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Take note of emission threshold.
Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles: Store in a cool location.
Avoid storage near extreme heat, ignition sources or open flame.
Store only in the original receptacle.
Provide ventilation for receptacles.
Information about storage in one common storage facility: Do not store together with oxidizing and acidic materials.
Do not store together with alkalis (caustic solutions).
Store away from foodstuffs.
Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
Keep container tightly sealed.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Isophorone diisocyanate (CAS: 4098-71-9)
TWA (Inhalation): See Isocyanates, all ppm; AU (AU/SWA)
Other advisory: Sen

2. Titanium(IV) oxide
PEL [Titanium dioxide] (Inhalation): 5 mg/m3 (Resp), 15 mg/m3 (Total); US (US/OSHA)
Lower Respiratory Tract irritation

TWA [Titanium dioxide] (Inhalation): 10 mg/m3; AU (AU/SWA)
Notes: (a)

PEL [Titanium dioxide - Total dust] (Inhalation): 15 mg/m3; US (US/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL [Titanium dioxide - Total dust] (Inhalation): See PNOR; US (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL [Titanium dioxide - Total dust] (Inhalation): Ca, (ultrafine particles), 2.4 mg/m3 (fine), 0.3 mg/m3 (ultrafine), See Appendix A, See NIOSH Intelligence Bulletin 63; US (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

PEL [Titanium dioxide] (Inhalation): 5 mg/m3 (Resp), 15 mg/m3 (Total); US (US/OSHA)
Lower Respiratory Tract irritation

TWA [Titanium dioxide] (Inhalation): 10 mg/m3; AU (AU/SWA)
Notes: (a)

PEL [Titanium dioxide - Total dust] (Inhalation): 15 mg/m3; US (US/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL [Titanium dioxide - Total dust] (Inhalation): See PNOR; US (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL [Titanium dioxide - Total dust] (Inhalation): Ca, (ultrafine particles), 2.4 mg/m3 (fine), 0.3 mg/m3 (ultrafine), See Appendix A, See NIOSH Intelligence Bulletin 63; US (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Local or general exhaust required when using at elevated temperatures that generate vapors or mists.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Use safety glasses, goggles or face-shield as appropriate.

Skin protection

Wear butyl rubber, polyethylene, chlorinated polyethylene, neoprene, nitrile or PVC gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection

Breathing apparatus needed only when aerosol or mist is formed. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for firefighting.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Pigmented Viscous Liquid
Odor	nearly odorless
Odor threshold	ND

Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	ND
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	<5000 cP
Solubility	ND
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.05
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions
None under normal processing

10.4 Conditions to avoid
Excessive heat, sources of ignition, open flame. May form explosive mixtures with air on intense heating.

10.5 Incompatible materials
Reacts with water.
Reacts with oxidizing agents.
Reacts with alkali, amines and strong acids.
Contact with acids releases toxic gases.
Reacts with peroxides and other radical forming substances.
Reacts with certain metals.

Titanium(IV) oxide : Strong acids

10.6 Hazardous decomposition products
None known under normal conditions of use.

Isocyanate
Nitrogen oxides
Hydrogen cyanide (prussic acid)
Toxic metal oxide smoke
Danger of forming toxic pyrolysis products.
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Titanium(IV) oxide
LD50 Oral - Rat - > 10,000 mg/kg
LD50 Skin - Rabbit - > 10,000 mg/kg

Skin corrosion/irritation
Titanium(IV) oxide
Human - 3 h
Result: Mild skin irritant

Sensitization possible through skin contact.

Serious eye damage/irritation
On the eye: Irritating effect.

Respiratory or skin sensitization
Sensitization possible through inhalation.

Germ cell mutagenicity
No data available

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

Reproductive toxicity
No data available

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
Repeated dose toxicity:
May cause damage to organs through prolonged or repeated exposure .
Repeated exposures may result in skin and/or respiratory sensitivity.

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
The product contains materials that are harmful to the environment.

Remark:
Harmful to fish. Due to mechanical actions of the product (e.g. agglutinations) damages may occur.
The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.

Persistence and degradability
Not easily biodegradable

Bioaccumulative potential
No information available

Mobility in soil
No information available

Other adverse effects
General notes:
This statement was deduced from products with a similar structure or composition.
The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Harmful to aquatic organisms.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Packaging disposal
Containers that are empty as defined by RCRA (40 CFR part 261.7), may retain product residue; observe all precautions for product. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
Chemical name: Poly[oxy(methyl-1,2-ethanediyl)], α-hydro-ω-hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane
CAS number: 39323-37-0

US EPA TSCA public inventory
Chemical name: Poly[oxy(methyl-1,2-ethanediyl)], alpha-hydro-omega-hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane
CAS number: 39323-37-0

Water hazard class (WGK, Germany)
Chemical name: Poly[oxy(methyl-1,2-ethanediyl)], alpha-hydro-omega-hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, CAS number: 39323-37-0
WGK hazard class: WGK 1 - Slightly hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-
CAS number: 4098-71-9

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: ISOPHORONE DIISOCYANATE
CAS number: 4098-71-9

US EPA TSCA public inventory
Chemical name: ISOPHORONE DIISOCYANATE
CAS number: 4098-71-9

Water hazard class (WGK, Germany)
Chemical name: ISOPHORONE DIISOCYANATE, CAS number: 4098-71-9
WGK hazard class: WGK 2 - Hazardous to water

New Jersey Right To Know Components
Common name: TITANIUM DIOXIDE
CAS number: 13463-67-7

Pennsylvania Right To Know Components
Chemical name: TITANIUM OXIDE (TIO2)
CAS number: 13463-67-7

Canadian Domestic Substances List (DSL)
Chemical name: Titanium oxide
CAS number: 51745-87-0

Canadian Domestic Substances List (DSL)
Chemical name: Titanium oxide (TiO2)
CAS number: 13463-67-7

EU Cosmetics Allowed Colorants List, (EC) 2009/1223 Annex IV
Chemical name: Titanium(IV) oxide
CAS number: 13463-67-7

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Titanium(IV) oxide
CAS number: 13463-67-7

US EPA TSCA public inventory
Chemical name: Titanium(IV) oxide
CAS number: 13463-67-7

Water hazard class (WGK, Germany)
Chemical name: Titanium(IV) oxide , CAS number: 13463-67-7
WGK hazard class: nwg - Not hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: Iron oxide (Fe3O4)
CAS number: 1317-61-9

Canadian Non-Domestic Substances List (NDSL)
Chemical name: C.I. Pigment Brown 6
CAS number: 52357-70-7

Canadian Non-Domestic Substances List (NDSL)
Chemical name: C.I. Pigment Brown 7
CAS number: 1345-27-3

US EPA TSCA public inventory
Chemical name: Iron oxide (Fe3O4)
CAS number: 1317-61-9

Water hazard class (WGK, Germany)
Chemical name: Iron oxide (Fe3O4), CAS number: 1317-61-9
WGK hazard class: nwg - Not hazardous to water

Pennsylvania Right To Know Components
Chemical name: CYCLOHEXANE, 5-ISOCYANATO-1-(ISOCYANATOMETHYL)-1,3,3-TRIMETHYL-
CAS number: 4098-71-9

New Jersey Right To Know Components
Common name: ISOPHORONE DIISOCYANATE
CAS number: 4098-71-9

Massachusetts Toxic Use Reduction Act (TURA) list
Chemical name: Isophorone diisocyanate
CAS number: 4098-71-9

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: ISOPHORONE DIISOCYANATE
CAS number: 4098-71-9

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
SP-10,-20 Part B

SECTION 1: Identification

1.1 GHS Product identifier

Product name	SP-10,-20 Part B
Product number	SP10,20B
Brand	Polymer Nation

1.2 Other means of identification
Catalyst solution

1.3 Recommended use of the chemical and restrictions on use
Catalyst solution for use with SP-10 or SP-20 Part A

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number
800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Acute toxicity, dermal, Cat. 4
- Acute toxicity, oral, Cat. 4
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Eye damage/irritation, Cat. 2A
- Specific target organ toxicity (repeated exposure), Cat. 2

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Warning**

Hazard statement(s)

H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection/protective gloves/protective clothing.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of 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.
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Diethyltoluenediamine

Concentration	25 - 50 % (weight)
EC no.	270-877-4
CAS no.	68479-98-1
Index no.	612-130-00-0

- Acute toxicity, dermal, Cat. 4
- Acute toxicity, oral, Cat. 4
- Specific target organ toxicity (repeated exposure), Cat. 2
- Eye damage/irritation, Cat. 2A
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

2. Propylene carbonate

Concentration	25 - 50 % (weight)
EC no.	203-572-1
CAS no.	108-32-7
Index no.	607-194-00-1

- Eye damage/irritation, Cat. 2A

H319	Causes serious eye irritation

3. Sulfonic acids, C10-18-alkane, Ph esters

Concentration	< 10 % (weight)
CAS no.	70775-94-9

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
If inhaled	Supply fresh air; consult doctor in case of complaints
In case of skin contact	Immediately rinse with water. If skin irritation continues, consult a doctor.
In case of eye contact	Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
If swallowed	Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting

4.2 Most important symptoms/effects, acute and delayed

Nausea
Cramp
Profuse sweating
Headache
Dizziness
Breathing difficulty

4.3 Indication of immediate medical attention and special treatment needed, if necessary

If swallowed, gastric irrigation with added, activated carbon.
Monitor circulation.
Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Foam Carbon dioxide (CO2) Dry powder
Use fire extinguishing methods suitable to surrounding conditions.

5.2 Specific hazards arising from the chemical
Formation of toxic gases is possible during heating or in case of fire.

5.3 Special protective actions for fire-fighters
Protective equipment: Wear self-contained respiratory protective device.
Wear fully protective suit.

Further information
Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

6.2 Environmental precautions
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water

6.3 Methods and materials for containment and cleaning up
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

7.2 Conditions for safe storage, including any incompatibilities
Information about fire - and explosion protection: No special measures required.
Requirements to be met by storerooms and receptacles:
Store in a cool location.
Avoid storage near extreme heat, ignition sources or open flame.
Information about storage in one common storage facility:
Do not store together with oxidizing and acidic materials.
Store away from foodstuffs.
Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

SECTION 8: Exposure controls/personal protection

8.2 Appropriate engineering controls
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure compliance to all relevant OSHA regulations.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety glasses

Skin protection
Protective work clothing
Protection of hands:
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves:
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Respiratory protection
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.

Thermal hazards
No data available

Environmental exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	dark brown/amber liquid
Odor	mild solvent
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	
Flash point	390 F/199 C
Auto-ignition temperature	788 F/420 C
Decomposition temperature	ND
pH	ND
Kinematic viscosity	< 100 cP
Solubility	ND
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.02 g/cm^3
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal storage conditions

10.2 Chemical stability
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
None under normal storage conditions

10.4 Conditions to avoid
Store away from oxidizing agents. Toxic fumes may be released if heated above the decomposition point.

10.5 Incompatible materials
Reacts with strong oxidizing agents. Reacts with strong acids.

10.6 Hazardous decomposition products
Carbon monoxide and carbon dioxide. Nitrogen oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Propylene carbonate
LD50 Oral - Rat - > 5,000 mg/kg
LD50 Skin - Rabbit - > 2,000 mg/kg

LD/LC50 values relevant for classification:
68479-98-1 diethylmethylbenzenediamine
Oral LD50 738 mg/kg (rat)
Dermal LD50 >2000 mg/kg (rat)

Skin corrosion/irritation
On the skin: Slight irritant effect on skin and mucous membranes.

Serious eye damage/irritation
Propylene carbonate
Rabbit
Result: Irritating to eyes

On the eye: Irritating effect.

Respiratory or skin sensitization
Sensitization: No sensitizing effects known.

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
Toxic for aquatic organisms

Propylene carbonate
EC50 - Daphnia magna (water flea) - > 1,000 mg/l - 48 h
EC19 - Pseudomonas putida - 7400 mg/l - 16 h
EC50 - Pseudokirchneriella subcapitata (green algae) - 900 mg/l - 72 h

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Results of PBT and vPvB assessment
No data available.

Endocrine disrupting properties
No data available

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Packaging disposal
Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 14: Transport information

DOT (US)
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Reportable quantity (RQ):
Marine pollutant:
Poison inhalation hazard:

IMDG
UN Number: UN3082
Class: 9
Packing Group: III
EMS Number:
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

IATA
UN Number: UN3082
Class: 9
Packing Group: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
Chemical name: Benzenediamine, ar,ar-diethyl-ar-methyl-
CAS number: 68479-98-1

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Diethyltoluenediamine
CAS number: 68479-98-1

US EPA TSCA public inventory
Chemical name: Diethyltoluenediamine
CAS number: 68479-98-1

Water hazard class (WGK, Germany)
Chemical name: Diethyltoluenediamine, CAS number: 68479-98-1
WGK hazard class: WGK 3 - Extremely hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: 1,3-Dioxolan-2-one, 4-methyl-
CAS number: 108-32-7

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Propylene carbonate
CAS number: 108-32-7

US EPA TSCA public inventory
Chemical name: Propylene carbonate
CAS number: 108-32-7

Water hazard class (WGK, Germany)
Chemical name: Propylene carbonate, CAS number: 108-32-7
WGK hazard class: WGK 1 - Slightly hazardous to water

Canadian Domestic Substances List (DSL)
Chemical name: Sulfonic acids, C10-18-alkane, Ph esters
CAS number: 70775-94-9

US EPA TSCA public inventory
Chemical name: Sulfonic acids, C10-18-alkane, Ph esters
CAS number: 70775-94-9

SECTION 16: Other information

16.1 Further information/disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
U-91 Part A

SECTION 1: Identification

1.1 GHS Product identifier

Product name	U-91 Part A
Product number	U4
Brand	Polymer Nation

1.2 Other means of identification
Polyol resin

1.3 Recommended use of the chemical and restrictions on use
Resin component for polyurethane resin; for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number

800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Eye damage/irritation, Cat. 2A

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Warning**

Hazard statement(s)

H319	Causes serious eye irritation

Precautionary statement(s)

P264	Wash … thoroughly after handling.
P280	Wear eye protection/face protection.
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+P313	If eye irritation persists: Get medical advice/attention.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. 2-Oxepanone

Concentration	40 - 60 % (weight)
EC no.	207-938-1
CAS no.	502-44-3

2. Polyester Polyol mixture

Concentration	40 - 60 % (weight)
CAS no.	Proprietary

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	In case of skin contact, wash affected areas with soap and water. Get medical attention if irritation develops and persists.
In case of eye contact	In case of contact, flush eyes with plenty of lukewarm water for at least 15 minutes. If irritation develops, get medical attention. Call an ophthalmologist.
If swallowed	If swallowed, DO NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. If symptoms develop, seek medical attention.

4.2 Most important symptoms/effects, acute and delayed

Adverse Effects:

Preexisting skin conditions and/or respiratory disorders may be aggravated by exposure to this product.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
None known.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam or water spray can be used. For large fires, carbon dioxide, water fog or fine spray, dry chemical, alcohol resistant foam can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable Extinguishing Media: Do not use straight water streams to avoid spreading fire.

5.2 Specific hazards arising from the chemical
Wear self-contained breathing apparatus for firefighting if necessary.

5.3 Special protective actions for fire-fighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam must be applied carefully to avoid frothing and from as far a distance as possible. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid excessive water spray application. Keep run-off water out of sewers and water sources.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Avoid creating aerosols. All contaminated surfaces will be slippery.

6.2 Environmental precautions
Use personal protection measures as recommended in Section 8.

6.3 Methods and materials for containment and cleaning up
Recover large spills into approved containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid repeated and prolonged skin contact. Avoid breathing vapors or mists. Use only with adequate ventilation. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

7.2 Conditions for safe storage, including any incompatibilities
Storage: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Avoid brass, copper, steel, iron.

Incompatibilities: Strong acids, strong bases, and strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.2 Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Local or general exhaust required when using at elevated temperatures that generate vapors or mists.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Use safety glasses, goggles or face-shield as appropriate.

Skin protection

Wear butyl rubber, polyethylene, chlorinated polyethylene, neoprene, nitrile or PVC gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection

Breathing apparatus needed only when aerosol or mist is formed. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for firefighting.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	colorless
Odor	nearly odorless
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	ND
Auto-ignition temperature	ND
Decomposition temperature	ND
pH	ND
Kinematic viscosity	<750 cP
Solubility	Insoluble in water
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	ND
Evaporation rate	ND
Density and/or relative density	1.01
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal use conditions.

10.2 Chemical stability

Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions
None under normal processing

10.4 Conditions to avoid
Excessive heat, sources of ignition, open flame. May form explosive mixtures with air on intense heating.

10.5 Incompatible materials
Strong oxidizing agents, strong acids, strong bases, polyvinyl chloride.

10.6 Hazardous decomposition products
None known under normal conditions of use

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Caprolactone Monomer:
LD50 Oral Rat >4,290 mg/kg
LC50 Inhalation: No data available.
LD50 Dermal Rabbit: No skin irritation.

Skin corrosion/irritation
Rabbit: No skin irritation.

Serious eye damage/irritation
Rabbit: Irritating to eyes

Respiratory or skin sensitization
Not expected to be a skin or respiratory sensitizer.

Germ cell mutagenicity
Chromosome aberration test in vitro -- Chinese hamster Fibroblasts - Negative.

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

Reproductive toxicity
Available data show no indications for reproductive toxicity.

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
No data available

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
LC50 – Poecilia reticulata (guppy) – 280 mg/l – 96 h (OECD Test Guideline 203.
EC50 – Daphnia magna (Water Flea) – 204mg/l – 48 h (OECD Test Guideline 202)
EC50 – Desmodesmus subspicatus (green algae) – 2,616 mg/l – 72 h (OECD Test Guideline 201)

Persistence and degradability
No data available

Bioaccumulative potential
No information available

Mobility in soil
No information available

Other adverse effects
No information available

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Packaging disposal
Containers that are empty as defined by RCRA (40 CFR part 261.7), may retain product residue; observe all precautions for product. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
Chemical name: 2-Oxepanone
CAS number: 502-44-3

US EPA TSCA public inventory
Chemical name: 2-Oxepanone
CAS number: 502-44-3

Water hazard class (WGK, Germany)
Chemical name: 2-Oxepanone, CAS number: 502-44-3
WGK hazard class: WGK 1 - Slightly hazardous to water

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
U-91 Part B

SECTION 1: Identification

1.1 GHS Product identifier

Product name	U-91 Part B
Product number	ISO9
Brand	Polymer Nation
Substance name	HEXAMETHYLENE DIISOCYANATE

1.2 Other means of identification
Isocyanate Hardener

1.3 Recommended use of the chemical and restrictions on use
Hardener component for polyaspartic resin; for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number
800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Acute toxicity, inhalation, Cat. 3
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear eye protection/face protection/protective gloves.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name: HEXAMETHYLENE DIISOCYANATE

Hazardous components

1. Hexamethylendiisocyanatoligomere, Isocyanurat

Concentration	95 - 100 % (weight)
EC no.	931-274-8
CAS no.	28182-81-2

2. HEXAMETHYLENE DIISOCYANATE

Concentration	< 0.1 % (weight)
EC no.	212-485-8
CAS no.	822-06-0
Index no.	615-011-00-1

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.
In case of skin contact	If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. If readily available, apply a polyglycol-based cleanser (e.g. SKC, Inc. (SKC) D-TAM™ Skin Cleanser) or corn oil. Wash with soap and warm water and pat dry. If a polyglycol-based cleanser is not available, wash with soap and warm water for 15 minutes. If available, use a wipe test pad to verify decontamination is complete (e.g. SKC SWYPE™). Get medical attention if irritation develops. Discard or wash contaminated clothing before reuse.
In case of eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.
If swallowed	Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

4.2 Most important symptoms/effects, acute and delayed

Acute: Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.
May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.
May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.
May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and

diarrhea.
Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.
Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.
Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to
any diisocyanate.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Dry chemical, Carbon dioxide (CO2), Foam, water spray for large fires

5.2 Specific hazards arising from the chemical
By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

5.3 Special protective actions for fire-fighters
Unsuitable Extinguishing Media: High volume water jet

Fire Fighting Procedure
Firefighters should wear NFPA compliant structural firefighting protective equipment, including selfcontained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources.

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management.

6.3 Methods and materials for containment and cleaning up
Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc…). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface. For spills involving a solid product, remove mechanically (sweep up, vacuum, shovel etc.) and collect and place into an approved metal container.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

7.2 Conditions for safe storage, including any incompatibilities

Store separate from food products.
Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Substances to Avoid
Water, Amines, Strong bases, Alcohols, Copper alloys

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hexamethylene diisocyanate (CAS: 822-06-0)
TWA (Inhalation): See Isocyanates, all ppm; AU (AU/SWA)
Other advisory: Sen

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the

respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	colorless
Odor	nearly odorless
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	158 C/316 F
Auto-ignition temperature	445 C/833 F
Decomposition temperature	ND
pH	ND
Kinematic viscosity	700-2500 cP
Solubility	Insoluble in water
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	5.2 x 10^-9 mmHg @ 68 F
Evaporation rate	ND
Density and/or relative density	1.17
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions
Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization, Moisture (water and high humidity) or high heat (temperatures greater than 350 F (177C)) can cause pressure build-up with possible explosive rupture.

10.4 Conditions to avoid
Heat, flames and sparks. Protect from freezing.

10.5 Incompatible materials
Water, Amines, Strong bases, Alcohols, Copper alloys

10.6 Hazardous decomposition products
By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Hexamethylendiisocyanatoligomere, Isocyanurat
LD50 Oral - Rat - >2,500 mg/kg
LC50 Inhalation - Rat - 0.39-0.543 mg/L - 4 hrs
LD50 Skin - Rat - >2,000 mg/kg

Skin corrosion/irritation
Hexamethylendiisocyanatoligomere, Isocyanurat
Rabbit - 4 hrs
Result: slight irritant

Serious eye damage/irritation
Hexamethylendiisocyanatoligomere, Isocyanurat
Rabbit
Result: slight irritant

Respiratory or skin sensitization
Hexamethylendiisocyanatoligomere, Isocyanurat
Guinea pig
Result: positive

Germ cell mutagenicity
Genetic Toxicity in Vitro:
Salmonella/microsome test (Ames test): No indication of mutagenic effects. (Metabolic Activation: with/without)
Chromosome aberration test in vitro: negative (Chinese hamster V79 cell line, Metabolic Activation: with/without)
Point mutation in mammalian cells (HPRT test): negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Carcinogenicity
No carcinogenic substances as defined by IARC, NTP and/or OSHA

Reproductive toxicity
Available data show no indications for reproductive toxicity.

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
90 d, Inhalative: NOAEL: 3.3, (rat, male/female, 6 hours a day, 5 days a week)
Irritation to lungs and nasal cavity.Evidence of damage to organs other than the organs of respiration was not found.

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
LC50: > 100 mg/l (Danio rerio (zebra fish), 96 h)
EC50: > 100 mg/l (Daphnia magna (Water flea), 48 h)
ErC50: > 1,000 mg/l, (scenedesmus subspicatus, 72 h)
EC50: 3,828 mg/l, (activated sludge, 3 h)

Persistence and degradability
aerobic, 1 %, Exposure time: 28 d, i.e. not readily degradable
aerobic, 0 %, Exposure time: 28 d, i.e. not readily degradable

Bioaccumulative potential
3.2 BCF
An accumulation in aquatic organisms is not to be expected.
367.7 BCF
An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Packaging disposal
Containers that are empty as defined by RCRA (40 CFR part 261.7), may retain product residue; observe all precautions for product. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

US EPA TSCA public inventory
Chemical name: Hexamethylendiisocyanatoligomere, Allophanat
CAS number: 28182-81-2

Canadian Domestic Substances List (DSL)
Chemical name: Hexane, 1,6-diisocyanato-, homopolymer
CAS number: 28182-81-2

US EPA TSCA public inventory
Chemical name: Hexamethylendiisocyanatoligomere, Isocyanurat
CAS number: 28182-81-2

Massachusetts Toxic Use Reduction Act (TURA) list
Chemical name: Hexamethylene-1,6-diisocyanate
CAS number: 822-06-0

New Jersey Right To Know Components
Common name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Canadian Domestic Substances List (DSL)
Chemical name: Hexane, 1,6-diisocyanato-
CAS number: 822-06-0

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

US EPA TSCA public inventory
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Toxic Use Reduction Act (TURA) list
Chemical name: Hexamethylene-1,6-diisocyanate
CAS number: 822-06-0

New Jersey Right To Know Components
Common name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

SECTION 16: Other information

16.1 Further information/disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

POLYMER NATION

Safety Data Sheet
U-51 Gloss

SECTION 1: Identification

1.1 GHS Product identifier

Product name	U-51 Gloss
Product number	U51G
Brand	Polymer Nation
Substance name	HEXAMETHYLENE DIISOCYANATE

1.2 Other means of identification
Isocyanate Pre-polymer

1.3 Recommended use of the chemical and restrictions on use
Moisture cure isocyanate pre-polymer; for use in resinous flooring applications

1.4 Supplier's details

Name	Polymer Nation
Address	405 Oakwood Ave Waukegan IL 60085
Telephone	847-774-5038

1.5 Emergency phone number
800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)
- Acute toxicity, inhalation, Cat. 3
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements
Pictograms

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear eye protection/face protection/protective gloves.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name: HEXAMETHYLENE DIISOCYANATE

Hazardous components

1. Hexamethylendiisocyanatoligomere, Isocyanurat

Concentration	95 - 100 % (weight)
EC no.	931-274-8
CAS no.	28182-81-2

2. HEXAMETHYLENE DIISOCYANATE

Concentration	< 0.1 % (weight)
EC no.	212-485-8
CAS no.	822-06-0
Index no.	615-011-00-1

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.
In case of skin contact	If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. If readily available, apply a polyglycol-based cleanser (e.g. SKC, Inc. (SKC) D-TAM™ Skin Cleanser) or corn oil. Wash with soap and warm water and pat dry. If a polyglycol-based cleanser is not available, wash with soap and warm water for 15 minutes. If available, use a wipe test pad to verify decontamination is complete (e.g. SKC SWYPE™). Get medical attention if irritation develops. Discard or wash contaminated clothing before reuse.
In case of eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.
If swallowed	Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

4.2 Most important symptoms/effects, acute and delayed

Acute: Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.
May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.
May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.
May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and

diarrhea.
Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.
Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.
Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Dry chemical, Carbon dioxide (CO2), Foam, water spray for large fires

5.2 Specific hazards arising from the chemical
By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

5.3 Special protective actions for fire-fighters
Unsuitable Extinguishing Media: High volume water jet

Fire Fighting Procedure
Firefighters should wear NFPA compliant structural firefighting protective equipment, including selfcontained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources.

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management.

6.3 Methods and materials for containment and cleaning up
Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc…). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface. For spills involving a solid product, remove mechanically (sweep up, vacuum, shovel etc.) and collect and place into an approved metal container.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

7.2 Conditions for safe storage, including any incompatibilities

Store separate from food products.
Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Substances to Avoid
Water, Amines, Strong bases, Alcohols, Copper alloys

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hexamethylene diisocyanate (CAS: 822-06-0)
TWA (Inhalation): See Isocyanates, all ppm; AU (AU/SWA)
Other advisory: Sen

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the

respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	colorless
Odor	nearly odorless
Odor threshold	ND
Melting point/freezing point	ND
Boiling point or initial boiling point and boiling range	ND
Flammability	ND
Lower and upper explosion limit/flammability limit	ND
Flash point	158 C/316 F
Auto-ignition temperature	445 C/833 F
Decomposition temperature	ND
pH	ND
Kinematic viscosity	< 500 cP
Solubility	Insoluble in water
Partition coefficient n-octanol/water (log value)	ND
Vapor pressure	5.2 x 10^-9 mmHg @ 68 F
Evaporation rate	ND
Density and/or relative density	1.17
Relative vapor density	ND

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions
Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization, Moisture (water and high humidity) or high heat (temperatures greater than 350 F (177C)) can cause pressure build-up with possible explosive rupture.

10.4 Conditions to avoid
Heat, flames and sparks. Protect from freezing.

10.5 Incompatible materials
Water, Amines, Strong bases, Alcohols, Copper alloys

10.6 Hazardous decomposition products
By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Hexamethylendiisocyanatoligomere, Isocyanurat
LD50 Oral - Rat - >2,500 mg/kg
LC50 Inhalation - Rat - 0.39-0.543 mg/L - 4 hrs
LD50 Skin - Rat - >2,000 mg/kg

Skin corrosion/irritation
Hexamethylendiisocyanatoligomere, Isocyanurat
Rabbit - 4 hrs
Result: slight irritant

Serious eye damage/irritation
Hexamethylendiisocyanatoligomere, Isocyanurat
Rabbit
Result: slight irritant

Respiratory or skin sensitization
Hexamethylendiisocyanatoligomere, Isocyanurat
Guinea pig
Result: positive

Germ cell mutagenicity
Genetic Toxicity in Vitro:
Salmonella/microsome test (Ames test): No indication of mutagenic effects. (Metabolic Activation: with/without)
Chromosome aberration test in vitro: negative (Chinese hamster V79 cell line, Metabolic Activation: with/without)
Point mutation in mammalian cells (HPRT test): negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Carcinogenicity
No carcinogenic substances as defined by IARC, NTP and/or OSHA

Reproductive toxicity
Available data show no indications for reproductive toxicity.

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
90 d, Inhalative: NOAEL: 3.3, (rat, male/female, 6 hours a day, 5 days a week)
Irritation to lungs and nasal cavity.Evidence of damage to organs other than the organs of respiration was not found.

Aspiration hazard
May be harmful if swallowed and enters airways

SECTION 12: Ecological information

Toxicity
LC50: > 100 mg/l (Danio rerio (zebra fish), 96 h)
EC50: > 100 mg/l (Daphnia magna (Water flea), 48 h)
ErC50: > 1,000 mg/l, (scenedesmus subspicatus, 72 h)

EC50: 3,828 mg/l, (activated sludge, 3 h)

Persistence and degradability
aerobic, 1 %, Exposure time: 28 d, i.e. not readily degradable
aerobic, 0 %, Exposure time: 28 d, i.e. not readily degradable

Bioaccumulative potential
3.2 BCF
An accumulation in aquatic organisms is not to be expected.
367.7 BCF
An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Packaging disposal
Containers that are empty as defined by RCRA (40 CFR part 261.7), may retain product residue; observe all precautions for product. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

US EPA TSCA public inventory
Chemical name: Hexamethylendiisocyanatoligomere, Allophanat
CAS number: 28182-81-2

Canadian Domestic Substances List (DSL)
Chemical name: Hexane, 1,6-diisocyanato-, homopolymer
CAS number: 28182-81-2

US EPA TSCA public inventory
Chemical name: Hexamethylendiisocyanatoligomere, Isocyanurat
CAS number: 28182-81-2

Massachusetts Toxic Use Reduction Act (TURA) list
Chemical name: Hexamethylene-1,6-diisocyanate

CAS number: 822-06-0

New Jersey Right To Know Components
Common name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Canadian Domestic Substances List (DSL)
Chemical name: Hexane, 1,6-diisocyanato-
CAS number: 822-06-0

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

US EPA TSCA public inventory
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Toxic Use Reduction Act (TURA) list
Chemical name: Hexamethylene-1,6-diisocyanate
CAS number: 822-06-0

New Jersey Right To Know Components
Common name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

Massachusetts Right To Know Components (105 CMR 670)
Chemical name: HEXAMETHYLENE DIISOCYANATE
CAS number: 822-06-0

SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.