



# POLYGEM

Revision date 22-Dec-2025

# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** PolyFM-1C

### Other means of identification

**Product Code(s)** FG-2304

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** Polyurethane Elastomer

### Restrictions on use

### Details of the supplier of the safety data sheet

#### Supplier Address

Smooth-On Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com

**E-mail** sds@smooth-on.com

### Emergency telephone number

**Emergency Telephone** Chemtel: US: 1-800.255.3924; International: 1-813.248.0585

## 2. Hazard(s) identification

### Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements



Danger

**Hazard statements**

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335 - May cause respiratory irritation
- H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Avoid breathing dust, fume, gas, mist, vapors and spray.
- In case of inadequate ventilation wear respiratory protection.
- Contaminated work clothing must not be allowed out of the workplace.
- Use only outdoors or in a well-ventilated area.
- Do not breathe dust, fume, gas, mist, vapors and spray.
- Wear protective gloves.

**Precautionary Statements - Response**

- Specific treatment (see supplemental first aid instructions on this label).
- Get medical advice/attention if you feel unwell.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- IF ON SKIN: Wash with plenty of water and soap.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
- Call a POISON CENTER or doctor if you feel unwell.

**Precautionary Statements - Storage**

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

**Precautionary Statements - Disposal**

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

**Other information**

May be harmful in contact with skin.

**3. Composition/information on ingredients**

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No.	Weight-%	Trade secret
MDI Prepolymer	39420-98-9	20-30	*
Isocyanic acid,	9016-87-9	10-20	*

polymethylenepolyphenylene ester			
4,4-Methylenediphenyl diisocyanate	101-68-8	10-20	*
MDI Prepolymer	59675-67-1	5-10	*
Dibutyltin dilaurate	77-58-7	5-10	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.
<b>Ingestion</b>	May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.
<b>Effects of Exposure</b>	May cause damage to organs through prolonged or repeated exposure.

### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	May cause sensitization in susceptible persons. Treat symptomatically.
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## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Product is or contains a sensitizer. May cause sensitization by inhalation. May cause sensitization by skin contact.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.

**Sensitivity to static discharge** None.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**7. Handling and storage**

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

**8. Exposure controls/personal protection**

**Control Parameters**

**Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
4,4-Methylenediphenyl diisocyanate 101-68-8	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m <sup>3</sup> (vacated) Ceiling: 0.02 ppm regulated under Methylene bisphenyl isocyanate (vacated) Ceiling: 0.2 mg/m <sup>3</sup> regulated under Methylene bisphenyl isocyanate	TWA: 0.005 ppm; TWA: 0.05 mg/m <sup>3</sup> ; Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m <sup>3</sup> 10 min IDLH: 75 mg/m <sup>3</sup>
Dibutyltin dilaurate 77-58-7	TWA: 0.1 mg/m <sup>3</sup> Sn STEL: 0.2 mg/m <sup>3</sup> Sn	TWA: 0.1 mg/m <sup>3</sup> Sn (vacated) TWA: 0.1 mg/m <sup>3</sup> Sn	TWA: 0.1 mg/m <sup>3</sup> ; except Cyhexatin Sn

	pSk	Sdv	IDLH: 25 mg/m <sup>3</sup> Sn
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**Appropriate engineering controls**

**Engineering controls**                      Showers  
    Eyewash stations  
    Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**                      Wear safety glasses with side shields (or goggles).

**Hand protection**                              Wear suitable gloves.

**Skin and body protection**                      Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Use appropriate respiratory protection.

**General hygiene considerations**                      Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

**9. Physical and chemical properties**

**Information on basic physical and chemical properties**

**Physical state**                                      Liquid  
**Appearance**                                      Liquid  
**Color**    light yellow  
**Odor**    Musty  
**Odor threshold**                                      No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	None known
<b>pH (as aqueous solution)</b>		None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Initial boiling point and boiling range</b>	No data available	None known
<b>Flash point</b>	> 93.3 °C / 200 °F	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Relative vapor density</b>	No data available	None known
<b>Relative density</b>	1.08	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

**10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	None known based on information supplied.

**11. Toxicological information**

Information on likely routes of exposure

**Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components). May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes skin irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. May cause additional effects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.
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Acute toxicity

**Numerical measures of toxicity**

The following ATE values have been calculated for the mixture  
 ATE<sub>mix</sub> (dermal) 4,209.00 mg/kg

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	= 49 g/kg ( Rat )	> 9.4 g/kg ( Rabbit )	= 490 mg/m <sup>3</sup> ( Rat ) 4 h
4,4-Methylenediphenyl diisocyanate 101-68-8	= 31600 mg/kg ( Rat )	-	= 369 mg/m <sup>3</sup> ( Rat ) 4 h
Dibutyltin dilaurate 77-58-7	= 45 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

- Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation.
- Serious eye damage/eye irritation** Classification based on data available for ingredients. 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 information available.

**Carcinogenicity** Based on available data, the classification criteria are not met.  
The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	-	Group 3 - Unclassifiable as to carcinogenicity in humans	-	-
4,4-Methylenediphenyl diisocyanate 101-68-8	-	Group 3 - Unclassifiable as to carcinogenicity in humans	-	-
Dibutyltin dilaurate 77-58-7	A4 - Not Classifiable as a Human Carcinogen	-	-	-

- Reproductive toxicity** No information available.
- STOT - single exposure** May cause respiratory irritation.
- STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard** No information available.
- Other adverse effects** No information available.
- Interactive effects** No information available.

**12. Ecological information**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability** No information available.

**Bioaccumulation**

**Component Information**

Chemical name	Partition coefficient
4,4-Methylenediphenyl diisocyanate 101-68-8	4.51
Dibutyltin dilaurate 77-58-7	4.44

**Other adverse effects** No information available.

**13. Disposal considerations**

**Disposal methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

**14. Transport information**

**DOT** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**15. Regulatory information**

**International Inventories**

\*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

- TSCA** Contact supplier for inventory compliance status.
- DSL/NDSL** Contact supplier for inventory compliance status.
- EINECS/ELINCS** Contact supplier for inventory compliance status.
- ENCS** Contact supplier for inventory compliance status.
- IECSC** Contact supplier for inventory compliance status.
- KECL** Contact supplier for inventory compliance status.
- PICCS** Contact supplier for inventory compliance status.
- AIIC** Contact supplier for inventory compliance status.
- NZIoC** Contact supplier for inventory compliance status.

**Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing Chemicals Inventory
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AIIC** - Australian Inventory of Industrial Chemicals
- NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
4,4-Methylenediphenyl diisocyanate - 101-68-8	1.0
Isocyanic acid, polymethylenepolyphenylene ester - 9016-87-9	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
4,4-Methylenediphenyl diisocyanate 101-68-8	5000 lb / 2270 kg (final RQ)	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
4,4-Methylenediphenyl diisocyanate 101-68-8	X	X	X
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	X	-	-

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 0	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 0	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend**

SVHC: Substances of Very High Concern for Authorization:  
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances  
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances  
 STOT: Specific Target Organ Toxicity  
 ATE: Acute Toxicity Estimate  
 LC50: 50% Lethal Concentration  
 LD50: 50% Lethal Dose

#### **Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

#### **Key literature references and sources for data used to compile the SDS**

U.S. Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 U.S. Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications  
 International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program  
 International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set  
 United Nations World Health Organization (WHO)

**Revision date** 22-Dec-2025

**Revision Note** No information available.

#### **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.**

**End of Safety Data Sheet**