



SIGMA-ALDRICH

## Material Safety Data Sheet

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Version 1.70

### Section 1 - Product and Company Information

**Product Name** Poly[(phenyl isocyanate)-co-formaldehyde]  
**Product Number** 406597  
**Brand** Aldrich Chemical

**Company** Sigma-Aldrich  
**Street Address** 3050 Spruce Street  
**City, State, Zip, Country** SAINT LOUIS, MO 63103 US  
**Technical Phone:** 800-325-5832  
**Fax:** 800-325-5052

**Emergency Phone:** 314-776-6555

### Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
POLY[(PHENYL ISOCYANATE)-CO-FORMALDEHYDE]	9016-87-9	No		615-005-01-6

Ingredient Name	CAS #	Percent	SARA 313
DIPHENYLMETHANE DIISOCYANATE (MDI)	26447-40-5	>= 20.000 % <= 45.000 %	

**Formula** (C8H7NO)<sub>n</sub>  
**Synonyms** Coronate MR 200, CR 200, Desmodur PU 1520A20, Desmodur 44V20, E 534, Isobind 100, Isocyanate 580, Isonate 390P, Isoset CX 11, Kaiser NCO 20, Lupranate M 10, Lupranate M 70, Lupranate M 20S, Lupranate M 20, MDICR, MDI-CR 100, MDI-CR 200, MDI-CR 300, Millionate 300, Millionate MR, Millionate MR 100, Millionate MR 200, Millionate MR 300, Millionate MR 340, Millionate MR 400, Millionate MR 500, Mobay MRS, Mondur E 429, Mondur E 441, Mondur E 541, Mondur MR, Mondur MR 200, Mondur MRS, Mondur MRS 10, MR 200, MB000, NCO 20, Niox AFPI, PAPI, PAPI 20, PAPI 27, PAPI 135, PAPI 580, PAPI 901, Polymeric diphenyl methylene diisocyanate, Rubinate M, Rubinate MF 178, Rubinate MF 182, Sumidur 44V10, Sumidur 44V20, Sumidur 44VM, Suprasec 1042, Suprasec DC, Systanate MR, Sytanat MR, Takenate 300C, Tedimon 31, Thanate P 210, Thanate P 220, Thanate P 270

### Section 3 - Hazards Identification

#### Emergency Overview

Harmful.  
Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.  
Possible sensitizer.

For additional information on toxicity, please refer to Section 11.

### Section 4 - First Aid Measures

#### Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

#### Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

### Section 5 - Fire Fighting Measures

**Flash Point:** 235 °F 113 °C

**Autoignition Temp:** N/A

#### Extinguishing Media

**Suitable**  
Carbon dioxide, dry chemical powder, or appropriate foam.

#### Firefighting

##### Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

##### Specific Hazard(s)

Emits toxic fumes under fire conditions.

#### Exposure Hazard(s)

##### Material

Irritant. Possible sensitizer.

### Section 6 - Accidental Release Measures

#### Procedure to be Followed in Case of Leak or Spill

Evacuate area.

#### Methods for Cleaning Up

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal.

### Section 7 - Handling and Storage

#### Handling

##### User Exposure

Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Open carefully.

#### Storage

##### Suitable

Keep tightly closed.

#### Special Requirements

May develop pressure. Open carefully. Moisture sensitive.

### Section 8 - Exposure Controls / PPE

#### Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

#### Personal Protective Equipment

##### Eye

Chemical safety goggles.

##### Other

Rubber apron.

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#### General Hygiene Measures

Wash thoroughly after handling. Wash contaminated clothing before reuse.

### Section 9 - Physical/Chemical Properties

#### Appearance

Physical State  
Liquid

Molecular Weight N/A

Property	Value	At Temperature or Pressure
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pH	N/A	
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BP/BP Range	200 °C	5 mmHg
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MP/MP Range	N/A	
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Freezing Point	N/A	
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Vapor Pressure	N/A	
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Vapor Density	8.6 g/l	
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Saturated Vapor Conc.	N/A	
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SG/Density	1.24 g/cm <sup>3</sup>	
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Bulk Density	N/A	
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Odor Threshold	N/A	
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Volatile%	N/A	
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VOC Content	N/A	
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Water Content	N/A	
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Solvent Content	N/A	
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Evaporation Rate	N/A	
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Viscosity	N/A	
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Partition Coefficient	N/A	
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Decomposition Temp.	N/A	
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Flash Point °F	235 °F	Method: closed cup
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Flash Point °C	113 °C	Method: closed cup
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Explosion Limits	N/A	
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Flammability	N/A	
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Autoignition Temp	N/A	
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Refractive Index	1.624	
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Solubility	N/A	
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N/A = not available

### Section 10 - Stability and Reactivity

#### Stability

##### Conditions of Instability

May decompose on exposure to moist air or water.

##### Materials to Avoid

Strong oxidizing agents, Alcohols

#### Hazardous Decomposition Products

##### Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide

### Section 11 - Toxicological Information

#### Route of Exposure

##### Skin Contact

Causes skin irritation.

##### Multiple Routes

May be harmful by inhalation, ingestion, or skin absorption. Vapor or mist is irritating to the eyes, mucous membranes, and upper respiratory tract.

#### Sensitization

##### Respiratory

May cause allergic respiratory reaction.

#### Signs and Symptoms of Exposure

Exposure can cause: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: TR0350000

#### Toxicity Data

Oral - Rat: 49000 mg/kg (LD50)

Remarks: Behavioral: Somnolence (general depressed activity).

Gastrointestinal: Hypermotility, diarrhea.

Nutritional and Gross Metabolic: Changes in: Body temperature decrease.

Inhalation - Rat: 490 mg/m<sup>3</sup> (LC50)

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other.

Lungs, Thorax, or Respiration: Respiratory depression.

Blood: Hemorrhage.

Skin - Rabbit: > 9400 mg/kg (LD50)

#### Irritation Data

Eyes - Rabbit: 100 mg

Remarks: Mild irritation effect

#### Chronic Exposure - Carcinogen

Rat - Inhalation: 6 MG/M3 6H/2Y- I

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

#### IARC Carcinogen List

##### Rating

Group 3

#### Chronic Exposure - Reproductive Hazard

##### Species

##### Dose

##### Route of Application

##### Exposure Time

Rat

12 MG/M3/6H

Inhalation

(6-15D PREG)

Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Specific Developmental Abnormalities: Musculoskeletal system.

### Section 12 - Ecological Information

No data available.

### Section 13 - Disposal Considerations

#### Appropriate Method of Disposal of Substance or Preparation

Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

### DOT

Proper Shipping Name: None

Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

### IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

## Section 15 - Regulatory Information

### EU Directives Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements R: 20 36/37/38 42

Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation.

Safety Statements S: 26 28 38 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soapsuds. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### US Classification and Label Text

Indication of Danger

Harmful.

Risk Statements

Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

Safety Statements

Do not breathe vapor/fumes. In case of insufficient ventilation, wear suitable respiratory equipment. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.

US Statements

Possible sensitizer.

### United States Regulatory Information

SARA Listed: No

Notes: This product is subject to SARA section 313 reporting requirements. This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

### Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

## Section 16 - Other Information

### Disclaimer

For R&D use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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