



Safety Data Sheet

FMC® Bonding Primer**SDS No. 590****Section 1 - Chemical Product and Company Identification****Product/Chemical Name:** FMC® Bonding Primer**General Use:** Primer**Manufacturer:** Smooth-On, Inc.,

5600 Lower Macungie Rd., Macungie, PA 18062

Phone (610) 252-5800, FAX (610) 252-6200

Emergency Contact: Chem-Tel

Domestic: 800-255-3924

International: 813-248-0585

Section 2 - Hazards Identification**Classification of the substance or mixture**

Acute toxicity, oral – Category 4

Acute toxicity, inhalation – Category 1

Skin Irritation – Category 2

Eye Irritation – Category 2A

Respiratory sensitization – Category 1

Skin sensitization – Category 1

Specific target organ toxicity – single exposure – Category 3, Respiratory system

Pictograms:**Signal Word:** Warning**Physical Hazards:** H302

Harmful if swallowed

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

General P101

If medical advice is needed, have product container or label at hand.

Precautions:

P102

Keep out of reach of children.

P103

Read label before use.

Prevention

P260

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

Precautions:

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P272

Contaminated work clothing should 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.

Response	P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Precautions:	P302 + P352	IF ON SKIN: Wash with plenty of soap and 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.
	P310	Immediately call a POISON CENTER or doctor/physician.
	P330	Rinse mouth.
	P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
	P337 + P313	If eye irritation persists: Get medical advice/attention.
	P362	Take off contaminated clothing.
Storage	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Precautions:	P405	Store locked up.
Disposal	P501	Dispose of contents/container in accordance with local, state and federal laws.
Precautions		

Hazards not otherwise classified (HNOC) or not covered by GHS - none

Section 3 - Composition / Information on Ingredients

CAS No.	Hazardous Component	Concentration
9016-87-9	Diphenylmethane diisocyanate, isomers and homologues	100%
101-68-8	4,4'-methylenediphenyl diisocyanate	40% - 50%

Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9

Section 4 - First Aid Measures

Inhalation: Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.

Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact: In case of skin contact, wash thoroughly with soap and water.

Ingestion: Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flammable Classification: Non-Flammable

Extinguishing Media: Water Fog, Dry Chemical, and Carbon Dioxide Foam

Unusual Fire or Explosion Hazards: None known.

Fire-Fighting Instructions: Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. Either allow fire to burn under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam.

Further information: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see also Section 8.

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

Spill /Leak procedures: Only properly protected personnel should remain in the spill area; dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

Section 7 - Handling and Storage

Handling Precautions: Use good general housekeeping procedures. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Wash hands after use.

Storage Requirements: Keep container(s) tightly closed and properly labeled. Store in cool, dry, well ventilated place away from heat, direct sunlight, strong oxidizers and any incompatibles. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. Avoid water contamination, product is moisture sensitive.

Section 8 - Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
4,4'-methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm

Respiratory Protection: Respiratory protection is not normally required when using this product with adequate ventilation. Should a respirator be needed, follow OSHA respirator regulations 29 CFR 1910.134 and European Standards EN 141, 143 and 371; wear an MSHA/NIOSH or European Standards EN 141, 143 and 371 approved respirators equipped with organic vapor cartridges.

Hand Protection: Wear chemically protective gloves to prevent prolonged or repeated skin contact.

Eye Protection: Safety glasses with side shields per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Other Protective Clothing/Equipment: Provide eye bath and safety shower.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Wash thoroughly after handling.

Section 9 - Physical and Chemical Properties

Appearance : dark brown liquid
Odor/Threshold: musty
pH: N.A. (non-aqueous)
Melting Point/Freezing Point: N.A.
Low/High Boiling Point: 738 °F
Flash Point: >399 °F
Evaporation Rate: Not available
Flammability: f.p. at or above 200 °F
UEL/LEL: Not available

Vapor Pressure: no data
Vapor Density (Air=1): no data
Specific Gravity (H₂O=1, at 4 °C): 1.2
Water Solubility: Insoluble, reacts, evolution of CO₂
Partition coefficient: Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Viscosity: 150 - 220 centipoise
% Volatile: No VOC

Section 10 - Stability and Reactivity

Stability: These products are stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalyzed by strong bases and water.

Chemical Incompatibilities: Strong bases, acids, alcohols, amines, water, ammonia, metal compounds, moist air, strong oxidizers. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat. Avoid contact with metals such as aluminum, zinc, brass, tin, copper and galvanized metals. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

Hazardous Decomposition Products: Thermal oxidative decomposition can produce carbon oxides and traces of incompletely burned carbon compounds. Gases are released during decomposition.

Section 11- Toxicological Information

Skin Corrosion/Irritation: causes mild skin irritation

Serious Eye Damage/Irritation: may cause moderate eye irritation. May cause slight temporary corneal injury.

Respiratory Sensitization: May cause allergic respiratory response. Concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Skin Sensitization: Prolonged contact may cause slight skin irritation with local redness. May stain skin. Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Germ Cell Mutagenicity: no data

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

Reproductive Toxicity: no data.

Specific Target Organ Toxicity – Single Exposure: no data

Specific Target Organ Toxicity – Repeated Exposure: no data

Aspiration Hazard: no data

Acute Toxicity:

LD50, rat > 10,000 mg/kg (ingestion)

LD50, rabbit >9,400 mg/kg (dermal)

LC50, 4h, aerosol, rat: 0.49 mg/l

Chronic Exposure: no data

Potential Health Effects – Miscellaneous: no data

Section 12 - Ecological Information

Toxicity:

LC50, *Danio rerio* (zebra fish), static test, 96 h: > 1,000 mg/l

EC50, *Daphnia magna* (water flea), static test, 24 h: > 1,000 mg/l

NOEC, *Desmodesmus subspicatus* (green algae), static test, growth rate inhibition, 72 h: 1,640 mg/l

EC50, OECD 209 Test; activated sludge, Respiration inhibition, 3 h: > 100 mg/l

EC50, *Eisenia fetida* (earthworms), 14 d: > 1,000 mg/kg

Persistence and Degradability: In the aquatic and terrestrial environment, material reacts with water forming insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

OECD 302C Biodegradation Test: 0% biodegradation, 28 d exposure, 10 day window N.A.

Bioaccumulative Potential: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration Factor (BCF): low (BCF < 100 or Log Pow < 3). 92; *Cyprinus carpio* (carp)

Mobility in Soil: In the aquatic and terrestrial environment, material reacts with water forming insoluble polyureas which appear to be stable.

Other Adverse Effects: no data

Section 13 - Disposal Considerations

Disposal: Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore to not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

Section 14 - Transport Information

DOT	IATA	IMDG
Not Regulated for Non-Bulk	Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (MDI) UN: 3082 HC: 9 PG: III Label: Marine Pollutant	Shipping Name: Environmentally Hazardous Substance, Liquid, n.o.s. (MDI) UN: 3082 HC: 9 PG: III Label: Marine Pollutant

Section 15 - Regulatory Information

TSCA Inventory Status (40 CFR710): All components of this formulation are listed in the TSCA Inventory.

EPCRA (SARA 311 and 312):

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	No
Reactive Hazard	Yes
Sudden Release of Pressure Hazard	No

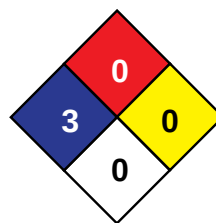
SARA Section 103 and 313 Components

CAS No.	Hazardous Component	Concentration
9016-87-9	Diphenylmethane diisocyanate, isomers and homologues	100%
101-68-8	4,4'-methylenediphenyl diisocyanate	40% - 50%

California Proposition 65: This product does not intentionally contain any chemicals which have been identified by the state of California to cause cancer, birth defects or other reproductive harm.

16 - Other Information

HMIS	
H	3
F	0
R	0

**NFPA****Revision:** 9**Date Prepared:** April 13, 2015

Glossary: ACGIH-American Conference of Governmental Industrial Hygienists; ANSI-American National Standards Institute; Canadian TDG-Canadian Transportation of Dangerous Goods; CAS-Chemical Abstract Service; Chemtrec-Chemical Transportation Emergency Center (US); CHIP-Chemical Hazard Information and Packaging; DSL-Domestic Substances List; EC-Equivalent Concentration; EH40 (UK)-HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA-Emergency Planning and Community Right-To-Know Act; ESL-Effects screening levels; GHS-Globally Harmonized System of Classification and Labelling of Chemicals; HMIS-Hazardous Material Information Service; IATA-International Air Transport Association; IMDG-International Maritime Dangerous Goods Code; LC-Lethal Concentration; LD-Lethal Dose; LEL-Lower Explosion Level; NFPA-National Fire Protection Association; OEL-Occupational Exposure Limit; OSHA-Occupational Safety and Health Administration, US Dept. of Labor; PEL-Permissible Exposure Limit; SARA (Title III)-Superfund Amendments and Reauthorization Act; SARA 313-Superfund Amendments and Reauthorization Act, Section 313; SCBA-Self-Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ-Texas Commission on Environmental Quality; TLV-Threshold Limit Value; TSCA-Toxic Substances Control Act Public Law 94-469; TWA-Time Weighted Value; UEL-Upper Explosion Level; US DOT-US Department of Transportation; WHMIS-Workplace Hazardous Materials Information System.

Disclaimer: The information contained in this Safety Data Sheet (SDS) is considered accurate as of the version date. However, no warranty is expressed or implied regarding the accuracy of the data. Since the use of this product is not within the control of Smooth-On Inc., it is the user's obligation to determine the suitability of the product for its intended application and assumes all risk and liability for its safe use.

This SDS is prepared to comply with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) as prescribed by the United States (US) Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 (REACH).

Classifications of the chemical in accordance with 29 CFR 1910.1200, signal word, hazard and precautionary statement(s), symbol(s) and other information are based on listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), WHMIS and EC No 1907/2006 and are considered trade secrets under US Federal Law (29 CFR and 40 CFR), Canadian Law (Health Canada Legislation), and European Union Directives.