



Material Safety Data Sheet

THE DOW CHEMICAL COMPANY

Product Name: HYPERLAST™ Primer 4016 Polyol

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THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

HYPERLAST™ Primer 4016 Polyol

Use of the substance/preparation

Raw material for polyurethanes.

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number:

800-258-2436

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact:

800-424-9300

Local Emergency Contact:

1800-033-882

For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126

2. Hazards Identification

HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous to health according to the criteria of the National Occupational Health and Safety Commission, Australia

|| May cause sensitization by skin contact.

3. Composition Information

Component	Amount	Classification:	CAS #	EC #
Polyether-polyester polyol	15.0 - 30.0 %	Xi: R43	Not available	Polymer
Polyester polyol	15.0 - 30.0 %	Not classified.	Confidential	Polymer
Limestone	40.0 - 60.0 %	Not classified.	1317-65-3	215-279-6

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Limestone

40.0 - 60.0 %

Not classified.

1317-65-3

215-279-6

See Section 16 for full text of R-phrases.

4. First Aid Procedures

Eye Contact: Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected. If effects occur, consult a physician, preferably an ophthalmologist.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Emergency Personnel Protection: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection) If potential for exposure exists refer to Section 8 for specific personal protective equipment.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

See Section 9 for related Physical Properties

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Collect in suitable and properly labeled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Spilled material may cause a slipping hazard. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: Keep container closed. This material is hygroscopic in nature. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. C2 Combustible Liquid - according to AS1940 - Storage and Handling of Flammable and Combustible Liquids. Store in accordance with regulations for storage of combustible liquids.

Storage

Protect from atmospheric moisture. Store in a dry place. Avoid prolonged exposure to heat and air. Store in the following material(s): Carbon steel. Stainless steel. Polypropylene. Polyethylene-lined container. Teflon. Glass-lined container. Aluminum. Plasite 3066 lined container. Plasite 3070 lined container. 316 stainless steel. See Section 10 for more specific information.

Storage Period: 12 Months
Storage temperature: 0 - 30 °C

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Limestone	ACGIH	TWA Respirable particles.	3 mg/m ³
	ACGIH	TWA Inhalable particles.	10 mg/m ³
	AU OEL	TWA Inspirable dust.	10 mg/m ³

Personal Protection

Eye/Face Protection: Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to AS/NZS 2161.10) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Other Information

Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Recommended practices for eye protection in the industrial environment.

AS/NZS 1337: Eye protectors for industrial applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective devices.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS 2919: Industrial clothing.

9. Physical and Chemical Properties

Physical State	Liquid.
Color	Blue
Odor	Characteristic
Odor Threshold	No test data available
Flash Point - Closed Cup	> 180 °C <i>Estimated</i>
Flammability (solid, gas)	Not applicable to liquids
Flammable Limits In Air	Lower: No test data available Upper: No test data available
Autoignition Temperature	No test data available
Vapor Pressure	No test data available
Boiling Point (760 mmHg)	No test data available.
Vapor Density (air = 1)	No test data available
Specific Gravity (H₂O = 1)	1.56 - 160 <i>ASTM D891</i>
Freezing Point	No test data available
Melting Point	No test data available
Solubility in water (by weight)	Partially soluble
pH	No test data available
Decomposition Temperature	No test data available
Partition coefficient, n-octanol/water (log Pow)	No data available for this product. See Section 12 for individual component data.
Evaporation Rate (Butyl Acetate = 1)	No test data available
Kinematic Viscosity	> 10,000 mm ² /s @ 25 °C <i>ASTM D445</i>

10. Stability and Reactivity

Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7.

Conditions to Avoid: Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases. Avoid unintended contact with isocyanates. The reaction of polyols and isocyanates generates heat.

Hazardous Polymerization

Will not occur by itself.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

11. Toxicological Information

Acute Toxicity**Ingestion**

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Single dose oral LD50 has not been determined. Estimated LD50, Rat > 2,000 mg/kg

Eye Contact

May cause irritation or corneal injury due to mechanical action.

Skin Contact

Prolonged exposure not likely to cause significant skin irritation.

Skin Absorption

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

The dermal LD50 has not been determined. Estimated LD50, Rabbit > 2,000 mg/kg

Inhalation

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.

Sensitization**Skin**

Contains component(s) which caused allergic skin reactions when tested in mice.

Repeated Dose Toxicity

No relevant information found.

Chronic Toxicity and Carcinogenicity

No relevant information found.

Developmental Toxicity

No relevant information found.

Reproductive Toxicity

No relevant information found.

Genetic Toxicology

No relevant information found.

12. Ecological Information

ENVIRONMENTAL FATE

Data for Component: Polyether-polyester polyol

Movement & Partitioning

No relevant information found.

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
12 %		OECD 301D Test

Data for Component: **Polyester polyol**

Movement & Partitioning

Based largely or completely on data for major component(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is low (Koc between 500 and 2000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Persistence and Degradability

Based largely or completely on data for major component(s): Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Data for Component: **Limestone**

Movement & Partitioning

Partitioning from water to n-octanol is not applicable.

Persistence and Degradability

Biodegradation is not applicable.

ECOTOXICITY

Data for Component: **Polyether-polyester polyol**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, zebra fish (*Brachydanio rerio*), static, 96 h: > 100 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea *Daphnia magna*, 48 h, immobilization: > 100 mg/l

Aquatic Plant Toxicity

EC50, alga *Scenedesmus* sp., biomass growth inhibition, 72 h: > 100 mg/l

Toxicity to Micro-organisms

EC50, OECD 209 Test; activated sludge, respiration inhibition: > 1,000 mg/l

Data for Component: **Polyester polyol**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Data for Component: **Limestone**

Material is not classified as dangerous to aquatic organisms (10 < LC50/EC50/IC50/LL50/EL50 <= 100 mg/L and NOEC > 1mg/l in the most sensitive species).

13. Disposal Considerations

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 91/689/EEC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

14. Transport Information

ADG

NOT REGULATED

IMDG

NOT REGULATED

ICAO/IATA
NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

Australia. Industrial Chemical (Notification and Assessment) Act

The principal components and additives of this product are included in the Australian Inventory of Chemical Substances (AICS) or comply with the requirements of the Industrial Chemicals (Notification and Assessment) Act 1989.

Classification and User Label Information

Hazard Symbol:

|| Xi - Irritant.

Risk Phrases :

|| R43 - May cause sensitization by skin contact.

Safety Phrases :

|| S24 - Avoid contact with skin.

|| S37 - Wear suitable gloves.

Contains: Polyether-polyester polyol

16. Other Information

Risk-phrases in the Composition section

R43 May cause sensitization by skin contact.

Revision

Identification Number: 1016782 / A001 / Issue Date 10.09.2012 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the

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