

DOW CORNING CORPORATION

Material Safety Data Sheet

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Version: 1.0

Revision Date: 2005/03/14

DOW CORNING(R) XR-1541 E-BEAM RESIST IN MIBK DEV SAMPLE

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 04058447

Revision Date: 2005/03/14

Generic Description: Silicone resin solution.
Physical Form: Liquid
Color: Colorless
Odor: Solvent odor.

NFPA Profile: Health 2 Flammability 3 Instability/Reactivity 1

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	> 60.0	Methyl isobutyl ketone
137125-44-1	1.0 - 5.0	Hydrogen silsesquioxane
108-88-3	<1.0	Toluene

The above components are hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Potential Health Effects

Acute Effects

Eye: Direct contact may cause moderate irritation. Vapor may cause eye irritation.

Skin: May cause mild irritation.

Inhalation: Irritates respiratory passages very slightly. Overexposure by inhalation may cause central nervous system depression which may be characterized by drowsiness, dizziness, confusion, loss of coordination, unconsciousness, and at very high concentrations even death.

Oral: Aspiration of liquid while vomiting may injure lungs seriously.

Prolonged/Repeated Exposure Effects

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Skin:	Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.
Inhalation:	Overexposure by inhalation may injure the following organ(s): Lungs. Nervous system. Kidneys. Liver.
Oral:	No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes. Get medical attention.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	Remove to fresh air. Get immediate medical attention.
Oral:	Get immediate medical attention. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.
Comments:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	62.6 °F / 17 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO ₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

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Unusual Fire Hazards: Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Silicon dioxide. Hydrogen.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye exposure. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame. Product evolves minute quantities of flammable hydrogen gas which can accumulate. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repackage. Do not store in glass containers which may shatter due to pressure build up. Clogged container vents may increase pressure build up. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
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DOW CORNING(R) XR-1541 E-BEAM RESIST IN MIBK DEV SAMPLE

108-10-1 Methyl isobutyl ketone

OSHA PEL (final rule): TWA 100 ppm and ACGIH TLV:
TWA 50 ppm, STEL 75 ppm.**Engineering Controls**Local Ventilation: Recommended.
General Ventilation: Recommended.**Personal Protective Equipment for Routine Handling**

Eyes: Use chemical worker's goggles.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Polyvinylalcohol. Teflon(R). Butyl Rubber. Nitrile Rubber.

Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes: Use full face respirator.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/Suitable Respirator: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Avoid eye exposure. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

DOW CORNING(R) XR-1541 E-BEAM RESIST IN MIBK DEV SAMPLE

Physical Form: Liquid
Color: Colorless
Odor: Solvent odor.
Specific Gravity @ 25°C: 0.8
Viscosity: 0.6 cSt

Freezing/Melting Point: Not determined.
Boiling Point: > 35C/95F
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction. Water, alcohols, acidic or basic materials, and many metals or metallic compounds, when in contact with product, liberate flammable hydrogen gas, which can form explosive mixtures in air.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components**

No known applicable information.

12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution**

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

DOW CORNING(R) XR-1541 E-BEAM RESIST IN MIBK DEV SAMPLE

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? NOT ASSESSED

State or local laws may impose additional regulatory requirements regarding disposal.

Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Proper Shipping Name: METHYL ISOBUTYL KETONE SOLUTION

Hazard Class: 3

UN/NA Number: UN1245

Packing Group: II

Hazard Label(s): FLAMMABLE LIQUID LABEL

Ocean Shipment (IMDG)

Proper Shipping Name: METHYL ISOBUTYL KETONE SOLUTION

Hazard Class: 3

UN Number: 1245

Packing Group: II

Hazard Label(s): FLAMMABLE LIQUID

Marine Pollutant: Not Applicable

Air Shipment (IATA)

DOW CORNING(R) XR-1541 E-BEAM RESIST IN MIBK DEV SAMPLE

Proper Shipping Name: METHYL ISOBUTYL KETONE SOLUTION

Hazard Class: 3

UN Number: 1245

Packing Group: II

Hazard Label(s): FLAMMABLE LIQUID

Remarks: VENTED PACKAGES ARE FORBIDDEN FOR AIR TRANSPORT.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings**Section 302 Extremely Hazardous Substances (40 CFR 355):**

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	98.0	Methyl isobutyl ketone
108-88-3	0.12	Toluene

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes
Chronic: Yes
Fire: Yes
Pressure: No
Reactive: Yes

Section 313 Toxic Chemicals (40 CFR 372):

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	98.0	Methyl isobutyl ketone

Supplemental State Compliance Information

California

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Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
108-88-3	<1.0	Toluene	Developmental toxin.

Massachusetts

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	> 60.0	Methyl isobutyl ketone

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	> 60.0	Methyl isobutyl ketone
137125-44-1	1.0 - 5.0	Hydrogen silsesquioxane

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
108-10-1	> 60.0	Methyl isobutyl ketone

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark