



MATERIAL SAFETY DATA SHEET

Product Name: ICYNENE MD-C-200™ V3 B-SIDE RESIN

Section 1: Chemical, Product and Company Information

Product Name: ICYNENE MD-C-200™ V3 B-Side Resin
ICYNENE MD-C-200™ is a trademark of Icynene Inc.

Product Code: ICYNENE MD-C-200™ V3 B-SIDE RESIN

Product Use: Blend of polymeric resins and additives that react with polymeric methylene diisocyanate to create MD-C-200™ V3 foam, a semi-rigid closed cell polyurethane foam for building and other construction insulation and protection. For professional and industrial use only.

Company Information: Icynene Inc., 6747 Campobello Rd., Mississauga, Ontario, L5N 2L7, Canada
Tel: 905.363.4040 Toll Free: 800.758.7325 Fax: 905.363.0102

Section 2: Hazardous Component Information

Component	CAS No.	Wt %
1,1,1,3,3-Pentafluorobutane	406-58-6	13 – 30
Tris(1-chloro-2-propyl) phosphate	13674-84-5	7 – 13
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	1 – 5
Bis(3-dimethylaminopropyl)-n,n-dimethylpropanediamine	33329-35-0	1 - 10
N-cyclohexyl-methylcyclohexanamine	7560-83-0	1-7
Pentamethyldiethylenetriamine	3030-47-5	1-7

Section 3: Hazards Identification

Route of Entry: Eye Contact, Skin Contact, Ingestion, Inhalation.

Acute Effect:

Eye Contact: Causes eye irritation. May cause temporary fogging of the eyes.

Skin Contact: Causes skin irritation.

Inhalation: May cause respiratory tract irritation

Ingestion: May be harmful if swallowed.

Section 4: First Aid Measures

Eye: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Skin: Clean exposed skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation: Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide

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artificial respiration or oxygen by trained personnel. Get medical attention. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion:

Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Can enter lungs and cause damage. Do not induce vomiting. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person.

Notes to physician:

Adrenalin and similar sympathomimetic drugs should be avoided following exposure as cardiac arrhythmia may result with possible subsequent cardiac arrest. Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours as delayed pulmonary edema may develop.

Section 5: Fire Fighting Measures

Flash Point:

Not Available

Method Used:

Not Available

Flammable Limits:

LFL:

Not Available

UFL:

Not Available

Extinguishing Media:

Carbon dioxide, dry chemical, foam. In case of large fires, water spray should be used. Use an extinguishing agent suitable for the surrounding fire.

Explosion Hazards:

In a fire or if heated, a pressure increase will occur and the container may burst. In use, may form flammable/explosive vapor-air mixture if no proper ventilation is in place.

Fire Hazards:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous Combustion Products

Carbon dioxide, carbon monoxide, nitrogen oxides, Dense black smoke, Other potentially toxic fumes.

Fire Fighting Equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6: Accidental Release Measures

Personal Precautions:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and

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unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment

Environmental Precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for Cleaning Up:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7:

Handling and Storage

Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Recommended storage temperature (Min/Max): 23 - 30°C. If materials are received outside the recommended temperature, condition the materials for 24 hours before use. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Make sure there is adequate ventilation to prevent localized vapor accumulation.

Section 8:

Exposure Controls/Personal Protection

Engineering Controls

Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. The local exhaust ventilation must be independent of HVAC system, such as furnace, air conditioning, etc. The ventilation equipment should be

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running during and after the installation process. HVAC system should be turned off during and 24 hours after the installation.

Respiratory Protection:

Sprayers and Helpers must always wear Supplied-Air Respirators with full-face protection (hood or full-face piece type) when spraying. When handling the foam product, it is essential that at a minimum workers were properly fit-tested NIOSH approved Air Purifying Respirator.

Skin Protection:

Sprayers and helpers must always wear chemically resistant gloves and full body protection to prevent skin contact. There should be no skin exposed during handling, processing or application of Icynene™ spray foam products.

Eye Protection:

Goggles or shield safety eyewear complying with an approved standard should be used when handling or spraying the foam products to avoid eye exposure to liquid splashes, mists or dusts.

Hands

Butyl Rubber, Nitrile Rubber and Neoprene Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling the foam chemical products.

Section 9: Physical and Chemical Properties

<u>Physical State:</u>	Brown liquid
<u>Boiling Point:</u>	Not Available
<u>Vapour Pressure:</u>	Not Available
<u>Freezing Point:</u>	Not Available
<u>Vapour Density:</u>	Not Available
<u>Solubility in Water:</u>	Not Available
<u>VOC content</u>	Not Available
<u>Specific Gravity:</u>	1.2
<u>Odour:</u>	Amine Odour
<u>pH:</u>	10.5-11.5
<u>Viscosity:</u>	250-450 cps at 25°C Brookfield Spindle #1 at 20 RPM
<u>Coefficient of Water/Oil Distribution</u>	Not Available

Section 10: Stability and Reactivity

<u>Stability:</u>	This product is stable under normal conditions. In use, it may form localized flammable/explosive vapour-air mixture if ventilation is inadequate.
<u>Incompatibility:</u>	Reactive or incompatible with the following materials: oxidizing materials, organic materials, metals, acids and alkalis, and isocyanates.
<u>Shelf-Life:</u>	Six months
<u>Hazardous Polymerization:</u>	Under normal conditions of storage and use, hazardous polymerization

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will not occur.

Section 11: Toxicological Information

Potential Acute Health Effects:

Ingestion	Harmful if swallowed
Inhalation	Irritating to respiratory system.
Eyes	Severely irritating to eyes. Risk of serious damage to eyes
Skin	Harmful and severely irritating to skin. May cause skin sensitization.

Potential Chronic Health Effects:

<u>Chronic Effects:</u>	Contains material that may cause target organ damage, based on animal data.
<u>Target Organs:</u>	Cardiovascular system, central nervous system
<u>Carcinogenicity:</u>	No known significant effects or critical hazards
<u>Mutagenicity:</u>	No known significant effects or critical hazards
<u>Teratogenicity:</u>	Contains material which can cause birth defects.
<u>Fertility Effect:</u>	No known significant effects or critical hazards
<u>Developmental Effects:</u>	No known significant effects or critical hazards

Section 12: Ecological Information/Environmental Fate

Aquatic Ecotoxicity: Not Available

Biodegradability: Not Available

<u>Environmental Effects:</u>	The majority of this product is intended to react with co-reactant polymeric diisocyanate MDI and form solid foam product staying in place of service. Little environmentally harmful chemicals will be released to the environment. This product may be harmful to the environment if accidentally released in large quantities.
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Section 13: Spill, Leak and Disposal Procedures

Major Spill: Call Icynene Inc. (800) 758-7325. If transportation spill involved call CANUTEC (613) 996-6666

Minor Spill: Absorb the resin with sawdust or other absorbent. Scoop up solid absorbent for waste disposal. The area should then be washed down to dilute and remove the remaining traces of material.

Disposal Method: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14: Transport Information

TDG (TRANSPORTATION OF DANGEROUS GOODS) CLASSIFICATION: Not Regulated.

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Section 15: Regulatory Information

CANADA:

CEPA (DSL)

All components are listed or exempted.

WHMIS:

D2A: Material causing other toxic effects (Very Toxic)

D2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

Section 16: Other Information

References:

- Canadian Guide of the Law and Regulations of the Transportation of Dangerous Goods
- Controlled Products Regulations
- Manufacturer's Material Safety Data Sheets

This Product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other special considerations: No additional remarks.

Manufacturer Disclaimer:

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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PREPARATION INFORMATION:

Revision Version and Date: October 6, 2013

Prepared by: Icynene Inc.

Telephone: 1.800.758.7325

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HEALTH AND SAFETY STATEMENT FOR CERTIFIED ICYNENE SPRAYERS

Icynene products have an excellent health and safety record spanning more than 350,000 insulation projects over more than 25 years. Nonetheless, safe handling practices during and immediately following installation are required to eliminate the possibility of health effects from exposure to isocyanates. Asthma, other lung problems, and irritation of the nose and throat can result from inhalation of isocyanates. Direct contact with the skin and eyes can result in irritation. Different individuals will react differently to the same exposures; some will be more sensitive than others. Severe asthma attacks have been reported in some sensitized workers exposed repeatedly to isocyanates while not wearing proper protective equipment. Some reports indicate a reaction and sensitization can occur following a single, sustained occupational exposure to isocyanates without proper protective equipment above the OSHA permissible exposure limit. But sensitization might not occur immediately in some individuals. Consistent use of personal proper protective equipment to prevent exposure during spraying and within the 24 hour-period after spraying is completed is critical to eliminating the health hazard. Once sensitization has occurred, a worker might not be able work safely with spray foam insulation again.

Sprayers, sprayer helpers, and anyone else present during spraying or within 24 hours after spraying is complete: You must wear proper Personal Protective Equipment (PPE) at all times during spray, including full-body-coverage, chemical-protective clothing and a NIOSH-certified respirator with fresh air supply. While spraying and for 24 hours after spraying is completed, no one must be allowed within 50 feet of the sprayed foam without wearing this type of PPE at all times. Adequate active, negative pressure ventilation (exhaust fans) of the job site must be in place during spray and for 24 hours after spray is complete.

Independent studies indicate that with 24 hours' active ventilation after spraying is completed, Icynene spray foam insulation is safely cured.

