

MDC200V6™

SDS Preparation Date (mm/dd/yyyy): 04/30/2016

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **MDC200V6™**

Product Code(s)

:

Recommended use of the chemical and restrictions on use

: Blend of polymeric resins and additives that react with polymeric methylene diisocyanate to create MD-C-200™ V3 foam, semi-rigid closed cell polyurethane foam for building and other construction insulation and protection.
Professional Use Only
Recommended restrictions: None known.

Chemical family

: Mixture

Name, address, and telephone number of the manufacturer:

Icynene Inc.

6747 Campobello Rd.

Mississauga, Ontario LN 2L7, Canada,

Manufacturer's Telephone # : (800) 758-7325

24 Hr. Emergency Tel # : (613) 996-6666

Name, address, and telephone number of the supplier:

Refer to manufacturer

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Acute toxicity, oral - Category 4

Skin Corrosion/Irritation - Category 1

Eye Damage/Irritation - Category 1

Reproductive Toxicity - Category 2

Specific target organ toxicity, single exposure - Category 2 (Kidney)

Label elements

Hazard pictogram(s)



Signal Word

Danger

Hazard statement(s)

Harmful if swallowed.

Causes severe skin burns and eye damage.

Suspected of damaging fertility or the unborn child.

May cause damage to organs.

Precautionary statement(s)

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Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust or mist.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/clothing and eye/face protection.

If exposed or concerned: Get medical attention/advice.
If swallowed: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs, get medical advice/attention.
Specific treatment (see this label).
Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a poison center/doctor.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration</u>
Diethylene glycol	1,5-Dihydroxy-3-oxapentane	111-46-6	10.0 - 30.0
(Z)- 1,1,1,4,4,4 – Hexafluoro-2- Butene	(Z)- 1,1,1,4,4,4 – Hexafluoro-2-Butene	692-49-9	10.0 - 30.0
2,2,4-Trimethyl-1,3-pentanediolmono(2-methylpropanoate)	Phosphoric trichloride, reaction products with propylene oxide	1244733-77-4	1.0 - 10.0
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	Bis(3-dimethylaminopropyl)-n,n-dimethylpropanediamine	33329-35-0	1.0 - 10.0
Cyclohexanamine, N-cyclohexyl-N-methyl-	N-cyclohexyl-methylcyclohexanamine	7560-83-0	1.0 - 10.0
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	Pentamethyldiethylenetriamine	3030-47-5	1.0 - 10.0
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	3,4,5,6-Tetrabromo-1,2-benzenedicarboxylic acid, mixed esters with diethylene glycol and propylene glycol	77098-07-8	1.0 - 5.0
Propane, 1,1,1,2,3,3,3-heptafluoro-	1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	1.0 - 5.0
Ethanediol	1,2-Ethanediol 1,2-Dihydroxyethane Ethylene Glycol	107-21-1	0.1 - 1.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

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SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTRE or doctor/physician if you feel unwell.
- Skin contact* : If on skin: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.
- Eye contact* : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

- : Causes skin burns. Contact may cause redness, swelling and a painful sensation. Can cause irritation, redness, tearing, and blurred vision and/or eye damage. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Symptoms may include redness, itching and swelling. May cause respiratory irritation.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Carbon dioxide (CO₂); Dry chemical; Alcohol resistant foam; Water fog. .

- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

- : Non-flammable.

Hazardous combustion products

- : Carbon oxides. Nitrogen oxides dense black smoke and other potentially toxic fumes.

Special protective equipment and precautions for firefighters

- Protective equipment for fire-fighters* : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

- Special fire-fighting procedures* : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate chemically Protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

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Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye/face protection. Use only in well-ventilated areas. Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Conditions for safe storage

: Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking.

Incompatible materials

: Strong oxidizing agents. Organic materials. Metals. Acids and bases. Isocyanates.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Diethylene glycol	10 mg/m ³ (AIHA WEEL)	N/Av	N/Av	N/Av
(Z)-1,1,1,4,4,4-Hexafluoro-2-Butene	N/Av	N/Av	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentanediol mono(2-methylpropanoate)	N/Av	N/Av	N/Av	N/Av
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	N/Av	N/Av	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl-	N/Av	N/Av	N/Av	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	N/Av	N/Av	N/Av	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	N/Av	N/Av	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro-	N/Av	N/Av	N/Av	N/Av
Ethanol	100 mg/m ³ (aerosol) (Ceiling)	N/Av	50 ppm (final rule limit)	N/Av

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Exposure controls

Ventilation and engineering measures

: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

: Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection

: Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, mist or vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Brown liquid.
Odour	: Amine odor.
Odour threshold	: No information available.
pH	: 10.5 - 11.5
Melting/Freezing point	: No information available.
Initial boiling point and boiling range	: N/Av
Flash point	: N/Av
Flashpoint (Method)	: N/Av
Evaporation rate (BuAe = 1)	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by vol.)	: 4.1 % at 140°F
Upper flammable limit (% by vol.)	: 12.3 % at 140°F
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Vapour pressure	: N/Av
Vapour density	: N/Av
Relative density / Specific gravity	: 1.2
Solubility in water	: N/Av
Other solubility(ies)	: No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	: No information available.
Auto-ignition temperature	: No information available.

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Decomposition temperature : No information available.
Viscosity : 250-450 cps at 25°C Brookfield Spindle #1 at 20 RPM
Volatiles (% by weight) : N/Av
Volatile organic Compounds (VOC's)
: N/Av
Absolute pressure of container
: Not applicable.
Flame projection length : Not applicable.
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
: Hazardous polymerization does not occur.
Conditions to avoid : Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials : Strong oxidizing agents. Organic materials. Metals. Acids and bases. Isocyanates.
Hazardous decomposition products
: Carbon oxides Nitrogen oxides (NOx). Dense black smoke, and other potentially toxic fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption
: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory tract irritation.

Sign and symptoms ingestion

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Acute toxicity, oral - Category 4 - Harmful if swallowed.

Sign and symptoms skin

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 1 - Causes severe skin burns.

Sign and symptoms eyes

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Eye Damage/Irritation - Category 1 - Causes serious eye damage.

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Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Reproductive Toxicity - Category 2 - Suspected of damaging fertility or the unborn child.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific target organ toxicity, single exposure - Category 2 - May cause damage to organs. Ethylene glycol may cause kidney stones and kidney damage if ingested.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: No information available.

Toxicological data

:

Chemical name	LC ₅₀ (4hr)	LD ₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Diethylene glycol	> 4600 mg/m ³ (aerosol)	13 311 mg/kg	13 300 mg/kg
Pentafluorobutane	N/Av	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentane diolmono(2-methylpropanoate)	5mg/L/4H	500mg/kg	1230mg/kg
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	N/Av	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl-	N/Av	446 mg/kg	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	N/Av	1630 µL/kg	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	N/Av	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro-	N/Av	N/Av	N/Av
Ethanol	4300 ppm (10.92 mg/L) (aerosol)	4000 mg/kg (rat) The estimated human lethal dose is: 1110 - 1665 mg/kg	9530 mg/kg

Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

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Ecotoxicity : 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.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Diethylene glycol	111-46-6	77 900 mg/L (Fathead minnow)	N/Av	None.
Pentafluorobutane	406-58-6	N/Av	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentanediol mono(2-methylpropanoate)	1244733-77-4	N/Av	N/Av	N/Av
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	N/Av	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	N/Av	N/Av	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	3030-47-5	N/Av	N/Av	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	N/Av	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	N/Av	N/Av	N/Av
Ethanediol	107-21-1	22 810 mg/L (Rainbow trout)	N/Av	None.

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<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Diethylene glycol	111-46-6	48 900 mg/L (Daphnia magna)	N/Av	None.
Pentafluorobutane	406-58-6	N/Av	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentanediol mono(2-methylpropanoate)	1244733-77-4	EC50/48h/Daphnia magna (Water flea) = 63 mg/L	N/Av	N/Av
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	N/Av	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	N/Av	N/Av	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N,N'-trimethyl-	3030-47-5	N/Av	N/Av	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	N/Av	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	N/Av	N/Av	N/Av
Ethanediol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Diethylene glycol	111-46-6	N/Av	N/Av	None.
Pentafluorobutane	406-58-6	N/Av	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentanediol mono(2-methylpropanoate)	1244733-77-4	N/Av	N/Av	N/Av
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	N/Av	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	N/Av	N/Av	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N,N'-trimethyl-	3030-47-5	N/Av	N/Av	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	N/Av	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	N/Av	N/Av	N/Av
Ethanediol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.

Persistence and degradability

: Not expected to be rapidly biodegradable.

Bioaccumulation potential

: No data is available on the product itself.

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<u>Components</u>	<u>Partition coefficient n-octanol/ater (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Diethylene glycol (CAS 111-46-6)	-1.98 at 25 °C	100 - 180 BCF method: static
(Z)-1,1,1,4,4,4-Hexafluoro-2-butene (CAS#692-49-9)	N/Av	N/Av
2,2,4-Trimethyl-1,3-pentanediol mono(2-methylpropanoate) (CAS 1244733-77-4)	N/Av	N/Av
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl- (CAS 33329-35-0)	N/Av	N/Av
Cyclohexanamine, N-cyclohexyl-N-methyl- (CAS 7560-83-0)	N/Av	N/Av
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl- (CAS 3030-47-5)	N/Av	N/Av
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene (CAS 77098-07-8)	N/Av	N/Av
Propane, 1,1,1,2,3,3,3-heptafluoro- (CAS 431-89-0)	N/Av	N/Av
Ethenediol (CAS 107-21-1)	- 1.36	N/Av

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects : None known.

SECTION 13. DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION





Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label

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49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

Environmental hazards : See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: This information is not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

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Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Diethylene glycol	111-46-6	Yes	N/Ap	N/Av	No	NS
(Z)1,1,1,4,4,4- Hexafluoro-2-butene	692-49-9	Yes	N/Ap	N/Av	No	NS
2,2,4-Trimethyl-1,3-pentanediolmono(2-methylpropanoate)	1244733-77-4	NS			NS	NS
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	Yes	N/Ap	N/Av	No	NS
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	Yes	N/Ap	N/Av	No	NS
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	3030-47-5	Yes	N/Ap	N/Av	No	NS
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	Yes	N/Ap	N/Av	No	NS
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	Yes	N/Ap	N/Av	No	NS
Ethanediol	107-21-1	Yes	5000 lb/ 2270 kg	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

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Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Diethylene glycol	111-46-6	No	N/Ap	No	No	Yes	No	Yes	Yes
(Z)1,1,1,4,4,4- Hexafluoro-2-Butene	692-49-9	No	N/Ap	No	No	No	No	No	No
2,2,4-Trimethyl-1,3-pentanediolmono(2-methylpropanoate)	1244733-77-4	No		No	No	No	NS	No	No
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	No	N/Ap	No	No	No	No	No	No
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	No	N/Ap	No	No	No	No	No	No
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	3030-47-5	No	N/Ap	No	No	No	No	No	No
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	No	N/Ap	No	No	No	No	No	No
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	No	N/Ap	No	No	No	No	No	No
Ethenediol	107-21-1	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA): All ingredients listed appear on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

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

International Information:

Components listed below are present on the following International Inventory list:

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Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Diethylene glycol	111-46-6	203-872-2	Present	Present	(2)-415; (2)-2979	KE-27694	Present	HSR002709
(Z)1,1,1,4,4,4-Hexafluoro-2-butene	692-49-9	N/Av	Present		(2)-3992	2002-3-2034	Present	
2,2,4-Trimethyl-1,3-pentenediolmono(2-methylpropanoate)	1244733-77-4	911-815-4	Present	Present			Present	
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	251-459-0	Present	Present	(2)-3225	KE-34804	Present	
Cyclohexanamine, N-cyclohexyl-N-methyl-	7560-83-0	231-453-4	Present	Present	(3)-3250		Present	HSR007367
1,2-Ethanediamine, N-[2-(dimethylamino)ethyl]-N,N',N'-trimethyl-	3030-47-5	221-201-1	Present	Present	(2)-147	KE-11153	Present	HSR003583
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene	77098-07-8	N/Av	Present	Present		2002-3-2177	Present	
Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0	207-079-2	Present		(2)-3763	97-3-48	Present	HSR001467
Ethenediol	107-21-1	203-473-3	Present	Present	(2)-230	KE-13169	Present	HSR001534

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- ATE: Acute Toxicity Estimate
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- ECHA: European Chemicals Agency
- ECOTOX: U.S. EPA Ecotoxicology Database
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- IBC: Intermediate Bulk Container
- IECSC: Inventory of Existing Chemical Substances
- IMDG: International Maritime Dangerous Goods
- IOC: Inventory of Chemicals
- IUCLID: International Uniform Chemical Information Database
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- MA: Massachusetts
- MN: Minnesota
- N/Av: Not Applicable

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N/Av:
Not
Availa
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NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012 version.
6. California Proposition 65 List - December 26, 2014 version

Preparation Date (mm/dd/yyyy)

: 04/30/2016

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

DISCLAIMER

This Safety Data Sheet was prepared by Icynene Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Icynene Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this Safety Data Sheet does not apply to use with any other product or in any other process.

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END OF DOCUMENT

Health & Safety Certified Sprayer

Icynene spray foam insulation products have an excellent health and safety record spanning more than 350,000 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 1 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 1 hour** after spraying is complete: You must ventilate at 40ACH and 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 1 hour** 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 2 hours** after spray is complete to allow for re-occupancy.

For installations of low VOC products Icynene Classic Max and Icynene ProSeal in the United States only, re-entry of the job site is permitted after 1 hour** and re-occupancy of the job site is permitted after 2 hours** provided that ventilation rates are followed as recommended on this page.

Independent studies and third party toxicologist verification indicates that when the prescribed ventilation rates and periods are followed, Icynene spray foam insulation is safely cured.

WARNING

WEAR PROPER PERSONAL PROTECTIVE EQUIPMENT AT ALL TIMES ON PREMISES DURING SPRAYING & FOR AT LEAST 1 HOUR* AFTER SPRAYING IS COMPLETE.

*FOR APPLICATIONS OF LOW VOC ICYNENE CLASSIC MAX AND ICYNENE PROSEAL ONLY WITH MIN. 40ACH VENTILATION.



RE-ENTRY AND RE-OCCUPANCY PERIODS

Times based upon ventilating during and after a spray application.

Ventilation Rate (Air Changes per Hour)	Re-entry period for sprayers, helpers, informed trade workers and contractors	Re-occupancy period for all others
At 0.3 ACH	24 hours	24 hours
At 1.0 ACH	12 hours*	24 hours
At 10.0 ACH	4 hours*	24 hours
At 40.0 ACH	1 hour**	2 hours**

* Twelve (12) and four (4) hour re-entry for trades applies to all Icynene products sold in the United States.

** One (1) hour re-entry and two (2) hour re-occupancy applies only to Low VOC products (Icynene Classic Max and Icynene ProSeal).

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