



## HandiFoam Black Foam Sealant

Distributed by: GH International Sealants ULC

Version No: 5.15

Safety Data Sheet according to WHMIS 2023 requirements

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S.GHS.CAN.EN

### SECTION 1 Identification

#### Product Identifier

Product name	HandiFoam Black Foam Sealant
Synonyms	Not Available
Proper shipping name	AEROSOLS
Other means of identification	Not Available

#### Recommended use of the chemical and restrictions on use

Relevant identified uses	One Component Polyurethane Foam Sealant
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#### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Distributed by: GH International Sealants ULC	ICP Construction Inc.
Address	2540 Rena Road Mississauga, ON L4T 3C9 Canada	150 Dascomb Road Andover, MA 01810 United States
Telephone	+1-905-677-5522	1-866-667-5119 1-978-623-9987
Fax	Not Available	Not Available
Website	<a href="http://www.icpgroup.com">www.icpgroup.com</a>	<a href="http://www.icpgroup.com">www.icpgroup.com</a>
Email	sds@icpgroup.com	sds@icpgroup.com

#### Emergency phone number

Association / Organisation	ChemTel
Emergency telephone number(s)	1-800-255-3924
Other emergency telephone number(s)	1-813-248-0585

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Aerosols, Hazard Category 1, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Inhalation) Category 4, Sensitisation (Respiratory) Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Reproductive Toxicity Effects on or via Lactation, Specific Target Organ Toxicity - Repeated Exposure Category 2
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#### Label elements

Hazard pictogram(s)	
Signal word	<b>Danger</b>

#### Hazard statement(s)

## HandiFoam Black Foam Sealant

<b>H222+H229</b>	Extremely flammable aerosol. Pressurized container: may burst if heated.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H319</b>	Causes serious eye irritation.
<b>H332</b>	Harmful if inhaled.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H335</b>	May cause respiratory irritation.
<b>H362</b>	May cause harm to breast-fed children.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure. (Respiratory system) (Inhalation)

**Physical and Health hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P211</b>	Do not spray on an open flame or other ignition source.
<b>P251</b>	Pressurized container: Do not pierce or burn, even after use.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P284</b>	[In case of inadequate ventilation] wear respiratory protection.
<b>P261</b>	Avoid breathing gas.
<b>P280</b>	Wear protective gloves, protective clothing, eye protection and face protection.
<b>P264</b>	Wash all exposed external body areas thoroughly after handling.

**Precautionary statement(s) Response**

<b>P342+P311</b>	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P314</b>	Get medical advice/attention if you feel unwell.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice/attention.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water.
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Precautionary statement(s) Storage**

<b>P405</b>	Store locked up.
<b>P410+P412</b>	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**Precautionary statement(s) Disposal**

<b>P501</b>	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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No further product hazard information.

**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
101-68-8	10-30	4,4'-diphenylmethane diisocyanate (MDI)
9016-87-9	10-30	MDI oligomer
85535-85-9	10-30	C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%
74-98-6	1-5	propane
75-28-5	5-10	iso-butane
115-10-6	5-10	dimethyl ether
57834-33-0	0.1-0.5	N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine
82919-37-7	0.1-0.5	methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 First-aid measures****Description of first aid measures**

<b>Eye Contact</b>	If aerosols come in contact with the eyes: <ul style="list-style-type: none"> <li>▶ Immediately hold the eyelids apart and flush the eye with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	In case of cold burns (frost-bite):

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	<ul style="list-style-type: none"> <li>► Move casualty into warmth before thawing the affected part; if feet are affected carry if possible</li> <li>► Bathe the affected area immediately in luke-warm water (not more than 35 deg C) for 10 to 15 minutes, immersing if possible and without rubbing</li> <li>► <b>DO NOT apply hot water or radiant heat.</b></li> <li>► Apply a clean, dry, light dressing of 'fluffed-up' dry gauze bandage</li> <li>► If a limb is involved, raise and support this to reduce swelling</li> <li>► If an adult is involved and where intense pain occurs provide pain killers such as paracetomol</li> <li>► Transport to hospital, or doctor</li> <li>► Subsequent blackening of the exposed tissue indicates potential of necrosis, which may require amputation.</li> </ul> <p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>► Flush skin and hair with running water (and soap if available).</li> <li>► Remove any adhering solids with industrial skin cleansing cream.</li> <li>► <b>DO NOT use solvents.</b></li> <li>► Seek medical attention in the event of irritation.</li> </ul>
<b>Inhalation</b>	<p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p> <p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>► Remove to fresh air.</li> <li>► Lay patient down. Keep warm and rested.</li> <li>► Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>► If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>► Transport to hospital, or doctor.</li> </ul>
<b>Ingestion</b>	Not considered a normal route of entry.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitisier which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain, vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- Some cross-sensitivity occurs between different isocyanates.
- Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- Mydratics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

**NOTE:** Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.

[Karol &amp; Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

**SECTION 5 Fire-fighting measures****Extinguishing media**

- Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Presents additional hazard when fire fighting in a confined space.
- Cooling with flooding quantities of water reduces this risk.

**SMALL FIRE:**

- Water spray, dry chemical or CO<sub>2</sub>

**LARGE FIRE:**

- Water spray or fog.

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>► Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul>
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**Special protective equipment and precautions for fire-fighters**

	<p><b>FOR FIRES INVOLVING MANY GAS CYLINDERS:</b></p> <ul style="list-style-type: none"> <li>► To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s).</li> <li>► Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback.</li> <li>► <b>DO NOT extinguish the fire until the supply is shut off</b> otherwise an explosive re-ignition may occur.</li> <li>► Alert Fire Brigade and tell them location and nature of hazard.</li> <li>► May be violently or explosively reactive.</li> <li>► Wear breathing apparatus plus protective gloves.</li> </ul> <p><b>GENERAL</b></p> <ul style="list-style-type: none"> <li>► Alert Fire Brigade and tell them location and nature of hazard.</li> <li>► May be violently or explosively reactive.</li> <li>► Wear breathing apparatus plus protective gloves.</li> </ul> <p>Prevent by any means spillage from entering drains or water-courses.</p>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>► Liquid and vapour are flammable.</li> <li>► Moderate fire hazard when exposed to heat or flame.</li> <li>► Vapour forms an explosive mixture with air.</li> </ul> <p>Combustion products include:</p> <ul style="list-style-type: none"> <li>carbon monoxide (CO)</li> <li>carbon dioxide (CO<sub>2</sub>)</li> <li>isocyanates</li> <li>hydrogen cyanide</li> <li>and minor amounts of</li> </ul>

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hydrogen chloride  
phosgene  
nitrogen oxides (NOx)  
other pyrolysis products typical of burning organic material.

**SECTION 6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> </ul>
<b>Major Spills</b>	<p>For isocyanate spills of less than 40 litres (2 m<sup>2</sup>):</p> <ul style="list-style-type: none"> <li>▶ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.</li> <li>▶ Notify supervision and others as necessary.</li> <li>▶ Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).</li> <li>▶ Avoid contamination with water, alkalies and detergent solutions.</li> <li>▶ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.</li> <li>▶ <b>DO NOT reseal container if contamination is suspected.</b></li> <li>▶ Clear area of all unprotected personnel and move upwind.</li> <li>▶ Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Remove leaking cylinders to a safe place.</li> <li>▶ Fit vent pipes. Release pressure under safe, controlled conditions</li> <li>▶ Burn issuing gas at vent pipes.</li> <li>▶ DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</li> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 Handling and storage****Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid skin contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> </ul>
<b>Other information</b>	<p>Consider storage under inert gas.</p> <ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> <li>▶ Store in original containers in approved flammable liquid storage area.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</li> </ul>
<b>Storage incompatibility</b>	<p>Dimethyl ether:</p> <ul style="list-style-type: none"> <li>▶ is a peroxidisable gas</li> <li>▶ may be heat and shock sensitive</li> <li>▶ is able to form unstable peroxides on prolonged exposure to air</li> <li>▶ reacts violently with oxidisers, aluminium hydride, lithium aluminium hydride</li> <li>▶ is incompatible with strong acids, metal salts</li> <li>▶ Reacts vigorously with alkali metals</li> </ul> <p>Butane / isobutane:</p> <ul style="list-style-type: none"> <li>▶ reacts violently with strong oxidisers, acetylene, halogens, and nitrous oxides</li> <li>▶ does not mix with chlorine dioxide, nitric acid and some plastics</li> <li>▶ may generate electrostatic charges, due to low conductivity, which may ignite vapours.</li> </ul> <p>Store butane well away from nickel carbonyl in the presence of oxygen between 20-40°C</p> <ul style="list-style-type: none"> <li>▪ Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water. Upon treatment with an alcohol, an isocyanate forms a urethane linkage.</li> <li>▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li> <li>▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.</li> <li>▶ For example, in 'open vessel processes' (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in 'closed vessel processes' (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.</li> <li>▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances</li> </ul>

**SECTION 8 Exposure controls / personal protection****Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

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## HandiFoam Black Foam Sealant

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (MDI)	0.02 ppm / 0.2 mg/m3	Not Available	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	4,4'-diphenylmethane diisocyanate (MDI)	Diphenylmethane diisocyanate, see Methylene bisphenyl isocyanate (MDI)	0.02 ppm / 0.2 mg/m3	Not Available	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (MDI)	0.005 ppm	0.015 ppm	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Not Available	0.005 ppm	Not Available	Not Available	TLV® Basis: Resp sens
Canada - Prince Edward Island Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate	0.005 ppm	Not Available	Not Available	TLV® Basis: Resp sens
Canada - British Columbia Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (MDI)	0.005 ppm	Not Available	0.01 ppm	Not Available
Canada - Ontario Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Isocyanates, organic compounds - Methylene bisphenyl isocyanate (MDI)	0.005 ppm	Not Available	0.02 ppm	* Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.
Canada - Alberta Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (Diphenylmethane-4,4'-diisocyanate; MDI)	0.005 ppm / 0.05 mg/m3	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Diphenylmethane-4,4'-diisocyanate (Methylene bisphenyl isocyanate, MDI)	0.005 ppm / 0.05 mg/m3	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate (MDI)	0.005 ppm	0.015 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bis (4-phenyl isocyanate) (MDI)	0.005 ppm / 0.051 mg/m3	Not Available	Not Available	EM: A substance to which exposure must be reduced to a minimum S: SENSITIZER
Canada - Nova Scotia Occupational Exposure Limits	4,4'-diphenylmethane diisocyanate (MDI)	Methylene bisphenyl isocyanate [MDI]	0.005 ppm	Not Available	Not Available	TLV Basis: respiratory sensitization
Canada - British Columbia Occupational Exposure Limits	MDI oligomer	Diisocyanates, not elsewhere specified, NOS	0.005 ppm	Not Available	0.01 ppm	Not Available
Canada - Alberta Occupational Exposure Limits	MDI oligomer	Polymethylene polyphenyl isocyanate (PAPI)	0.005 ppm / 0.07 mg/m3	Not Available	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	propane	Propane	Not Available	Not Available	Not Available	(See Table 12)
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	propane	Propane	Not Available	Not Available	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	propane	Not Available	Not Available	Not Available	Not Available	TLV® Basis: Asphyxia; See Appendix F: Minimal Oxygen Content
Canada - Prince Edward Island Occupational Exposure Limits	propane	* Propane	Not Available	Not Available	Not Available	TLV® Basis: Asphyxia; See Appendix F: Minimal Oxygen Content
Canada - British Columbia Occupational Exposure Limits	propane	Aliphatic hydrocarbon gases [C1-C4]	1000 ppm	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	propane	Propane	1000 ppm	Not Available	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	propane	Aliphatic hydrocarbon gases, Alkane [C1-C4]	1000 ppm	1250 ppm	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	propane	Propane	1000 ppm / 1800 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	propane	Propane	1000 ppm	Not Available	Not Available	TLV Basis: cardiac sensitization; central nervous system impairment
Canada - Yukon Permissible Concentrations for Airborne	iso-butane	Butane	600 ppm / 1,400 mg/m3	1,600 mg/m3 / 750 ppm	Not Available	Not Available

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Contaminant Substances						
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	iso-butane	Butane, All isomers	Not Available	Not Available	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	iso-butane	Not Available	Not Available	1000 ppm	Not Available	TLV® Basis: CNS impair
Canada - Prince Edward Island Occupational Exposure Limits	iso-butane	* Butane, all isomers	Not Available	1000 ppm	Not Available	TLV® Basis: CNS impair
Canada - Alberta Occupational Exposure Limits	iso-butane	Aliphatic Hydrocarbon gases, Alkane (C2-C4)	1000 ppm	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure LimitsCanada	iso-butane	Isobutane	1000 ppm	Not Available	Not Available	TLV Basis: cardiac sensitization; central nervous system impairment
Canada - British Columbia Occupational Exposure Limits	dimethyl ether	Dimethyl ether	1000 ppm	Not Available	Not Available	Not Available

## Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Individual protection measures, such as personal protective equipment	   
Eye and face protection	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> <li>▶ Chemical goggles.</li> <li>▶ Full face shield may be required for supplementary but never for primary protection of eyes.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.</li> <li>▶ Close fitting gas tight goggles</li> <li>▶ No special equipment for minor exposure i.e. when handling small quantities.</li> <li>▶ OTHERWISE: For potentially moderate or heavy exposures:</li> <li>▶ Safety glasses with side shields.</li> <li>▶ NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them.</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>▶ Protective gloves and overalls should be worn as specified in the appropriate national standard.</li> <li>▶ Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.</li> <li>▶ No special equipment needed when handling small quantities.</li> <li>▶ OTHERWISE: <ul style="list-style-type: none"> <li>▶ For potentially moderate exposures:</li> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ For potentially heavy exposures:</li> <li>▶ Wear chemical protective gloves, eg. PVC.</li> <li>▶ Insulated gloves:</li> <li>▶ NOTE: Insulated gloves should be loose fitting so that may be removed quickly if liquid is spilled upon them. Insulated gloves are not made to permit hands to be placed in the liquid; they provide only short-term protection from accidental contact with the liquid.</li> </ul> </li> </ul>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> <li>▶ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.</li> <li>▶ Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Skin cleansing cream.</li> </ul>

## Respiratory protection

Type KAX-P Filter of sufficient capacity. (AS/NZS 1716 &amp; 1715, EN 143:2000 &amp; 149:2001, ANSI Z88 or national equivalent)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used
- ▶ Generally not applicable.

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

Appearance/Colour	Viscous liquid which forms off-white to yellowish foam upon release.
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## HandiFoam Black Foam Sealant

<b>Physical state</b>	Liquified Gas	<b>Relative density (Water = 1)</b>	1.1
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature (°C)</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	-104	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	HIGHLY FLAMMABLE.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	345	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Partly miscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	160
<b>Heat of Combustion (kJ/g)</b>	Not Available	<b>Ignition Distance (cm)</b>	Not Available
<b>Flame Height (cm)</b>	Not Available	<b>Flame Duration (s)</b>	Not Available
<b>Enclosed Space Ignition Time Equivalent (s/m3)</b>	Not Available	<b>Enclosed Space Ignition Deflagration Density (g/m3)</b>	Not Available
<b>Particle Characteristics</b>	Not Available		

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	▶ Elevated temperatures. ▶ Presence of open flame. ▶ Product is considered stable. ▶ Presence of elevated temperatures.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

## Information on toxicological effects

<b>a) Acute Toxicity</b>	There is sufficient evidence to classify this material as acutely toxic.
<b>b) Skin Irritation/Corrosion</b>	There is sufficient evidence to classify this material as skin corrosive or irritating.
<b>c) Serious Eye Damage/Irritation</b>	There is sufficient evidence to classify this material as eye damaging or irritating
<b>d) Respiratory or Skin sensitisation</b>	There is sufficient evidence to classify this material as sensitising to skin or the respiratory system
<b>e) Mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>f) Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>g) Reproductivity</b>	There is sufficient evidence to classify this material as toxic to reproductivity
<b>h) STOT - Single Exposure</b>	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
<b>i) STOT - Repeated Exposure</b>	There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure
<b>j) Aspiration Hazard</b>	Based on available data, the classification criteria are not met.

<b>Inhaled</b>	<p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. There is strong evidence to suggest that this material can cause, if inhaled once, serious, irreversible damage of organs. A vapour/mist containing chlorinated paraffins of more than 10 carbon atoms and a chlorine content ranging between 40 and 70% may produce a sore throat, coughing and shortness of breath. Isobutane produces a dose dependent action and at high concentrations may cause numbness, suffocation, exhilaration, dizziness, headache, nausea, confusion, incoordination and unconsciousness in severe cases. The paraffin gases are practically not harmful at low doses. Higher doses may produce reversible brain and nerve depression and irritation. Inhalation of toxic gases may cause:</p> <ul style="list-style-type: none"> <li>▶ Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;</li> <li>▶ respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;</li> <li>▶ heart: collapse, irregular heartbeats and cardiac arrest;</li> <li>▶ gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.</li> </ul> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting.</p> <p><b>WARNING:</b>Intentional misuse by concentrating/inhaling contents may be lethal.</p>
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## HandiFoam Black Foam Sealant

<b>Ingestion</b>	<p>Strong evidence exists that exposure to the material may cause irreversible damage (other than cancer, mutations and birth defects) following a single exposure by swallowing.</p> <p>Chlorinated paraffins can cause liver damage and wasting of heart muscle. Large amounts can cause abdominal pain, nausea, vomiting, as well as inactivity, inco-ordination and diarrhoea.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> <p>Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea.</p>												
<b>Skin Contact</b>	<p>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs. Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Chlorinated paraffins of more than 10 carbon atoms and a chlorine content ranging between 40 and 70% may be absorbed by the skin and produce areas of localised reddening.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Spray mist may produce discomfort</p> <p>Exposure to the material may result in a skin inflammation called chloracne. This is characterised by white- and blackheads, keratin cysts, spots, excessive discolouration.</p> <p>Vapourising liquid causes rapid cooling and contact may cause cold burns, frostbite, even through normal gloves. Frozen skin tissues are painless and appear waxy and yellow. Signs and symptoms of frost-bite may include 'pins and needles', paleness followed by numbness, a hardening an stiffening of the skin, a progression of colour changes in the affected area, (first white, then mottled and blue and eventually black; on recovery, red, hot, painful and blistered).</p>												
<b>Eye</b>	<p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p> <p>Not considered to be a risk because of the extreme volatility of the gas.</p>												
<b>Chronic</b>	<p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</p> <p>This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways.</p> <p>Prolonged or repeated exposure to chlorinated paraffins may produce liver and kidney disorders. Chronic administration of high doses can cause hair standing on end, muscle inco-ordination and incontinence.</p> <p>Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.</p> <p>The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components.</p> <p>Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation and increased cell growth. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p>												
<b>HandiFoam Black Foam Sealant</b>	<table border="1"> <tr> <td data-bbox="366 1152 901 1185"><b>TOXICITY</b></td><td data-bbox="901 1152 1504 1185"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 1185 901 1219">Not Available</td><td data-bbox="901 1185 1504 1219">Not Available</td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Not Available	Not Available								
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<b>4,4'-diphenylmethane diisocyanate (MDI)</b>	<table border="1"> <tr> <td data-bbox="366 1248 901 1282"><b>TOXICITY</b></td><td data-bbox="901 1248 1504 1282"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 1282 901 1316">Dermal (rabbit) LD50: &gt;6200 mg/kg<sup>[2]</sup></td><td data-bbox="901 1282 1504 1316">Eye (Rodent - rabbit): 100mg - Moderate</td></tr> <tr> <td data-bbox="366 1316 901 1349">Inhalation (Rat) LC50: 0.368 mg/L4h<sup>[1]</sup></td><td data-bbox="901 1316 1504 1349">Eye: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> <tr> <td data-bbox="366 1349 901 1383">Oral (Mouse) LD50: 2200 mg/kg<sup>[2]</sup></td><td data-bbox="901 1349 1504 1383">Skin (Rodent - rabbit): 500mg/24H</td></tr> <tr> <td data-bbox="366 1383 901 1417"></td><td data-bbox="901 1383 1504 1417">Skin: adverse effect observed (irritating)<sup>[1]</sup></td></tr> <tr> <td data-bbox="366 1417 901 1450"></td><td data-bbox="901 1417 1504 1450">Skin: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg - Moderate	Inhalation (Rat) LC50: 0.368 mg/L4h <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>	Oral (Mouse) LD50: 2200 mg/kg <sup>[2]</sup>	Skin (Rodent - rabbit): 500mg/24H		Skin: adverse effect observed (irritating) <sup>[1]</sup>		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
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<b>MDI oligomer</b>	<table border="1"> <tr> <td data-bbox="366 1495 901 1529"><b>TOXICITY</b></td><td data-bbox="901 1495 1504 1529"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 1529 901 1563">Dermal (rabbit) LD50: &gt;9400 mg/kg<sup>[2]</sup></td><td data-bbox="901 1529 1504 1563">Eye (Rodent - rabbit): 100mg - Mild</td></tr> <tr> <td data-bbox="366 1563 901 1596">Inhalation (Rat) LC50: 0.49 mg/L4h<sup>[2]</sup></td><td data-bbox="901 1563 1504 1596"></td></tr> <tr> <td data-bbox="366 1596 901 1630">Oral (Rat) LD50: 43000 mg/kg<sup>[2]</sup></td><td data-bbox="901 1596 1504 1630"></td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Dermal (rabbit) LD50: >9400 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg - Mild	Inhalation (Rat) LC50: 0.49 mg/L4h <sup>[2]</sup>		Oral (Rat) LD50: 43000 mg/kg <sup>[2]</sup>					
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<b>C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%</b>	<table border="1"> <tr> <td data-bbox="366 1686 901 1720"><b>TOXICITY</b></td><td data-bbox="901 1686 1504 1720"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 1720 901 1754">dermal (rat) LD50: &gt;3125 mg/kg<sup>[1]</sup></td><td data-bbox="901 1720 1504 1754">Eye: adverse effect observed (irritating)<sup>[1]</sup></td></tr> <tr> <td data-bbox="366 1754 901 1787">Inhalation (Rat) LC50: &gt;12.043 mg/L4h<sup>[1]</sup></td><td data-bbox="901 1754 1504 1787">Skin: adverse effect observed (irritating)<sup>[1]</sup></td></tr> <tr> <td data-bbox="366 1787 901 1821">Oral (Rat) LD50: 2000-4000 mg/kg<sup>[2]</sup></td><td data-bbox="901 1787 1504 1821">Skin: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	dermal (rat) LD50: >3125 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>	Inhalation (Rat) LC50: >12.043 mg/L4h <sup>[1]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>	Oral (Rat) LD50: 2000-4000 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>				
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<b>propane</b>	<table border="1"> <tr> <td data-bbox="366 1866 901 1900"><b>TOXICITY</b></td><td data-bbox="901 1866 1504 1900"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 1900 901 1933">Inhalation (Rat) LC50: 364726.819 ppm4h<sup>[2]</sup></td><td data-bbox="901 1900 1504 1933">Not Available</td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Inhalation (Rat) LC50: 364726.819 ppm4h <sup>[2]</sup>	Not Available								
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<b>iso-butane</b>	<table border="1"> <tr> <td data-bbox="366 1978 901 2012"><b>TOXICITY</b></td><td data-bbox="901 1978 1504 2012"><b>IRRITATION</b></td></tr> <tr> <td data-bbox="366 2012 901 2046">Inhalation (Rat) LC50: &gt;13023 ppm4h<sup>[1]</sup></td><td data-bbox="901 2012 1504 2046">Eye: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> <tr> <td data-bbox="366 2046 901 2079"></td><td data-bbox="901 2046 1504 2079">Skin: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Inhalation (Rat) LC50: >13023 ppm4h <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>						
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## HandiFoam Black Foam Sealant

<b>dimethyl ether</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (Rat) LC50: >20000 ppm4h <sup>[1]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>HandiFoam Black Foam Sealant</b>	High molecular weight liquid chloroparaffins are considered to be practically non-harmful. Special consideration should be given to solid grades of the material (eg Cereclor 70) because of relatively high levels of carbon tetrachloride remaining as a residual reactant. Vapours are readily absorbed through intact skin, requiring additional precautions in handling. Lifetime studies have been carried out with two grades of chlorinated paraffins.
<b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)</b>	Inhalation (human) TCLo: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate
<b>MDI OLIGOMER</b>	product Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, incoordination, anxiety, depression and paranoia.
<b>N-(ETHOXYCARBONYLPHENYL)-N'-METHYL-N'-PHENYLFORMAMIDINE</b>	Ames Test negative ** Nymco SDS Nymassorb FA-1 Human exposure to formamidines has been largely limited to agricultural and production workers, as well as intentional ingestion in suicide attempts. Limited data from human oral exposures indicates that effects include lethargy, vomiting, muscle weakness, headaches, decreased monoamine oxidase (MAO) activity and blurred vision. General side-effects of formamidines in mammals are possible alterations in the animals ability to maintain homeostasis for at least 24 hours after exposure.
<b>HandiFoam Black Foam Sealant &amp; C14-17 ALKANES, CHLORINATED-, CHLORINATED PARAFFIN 52, 58%</b>	C12, 60% Chlorinated paraffin is classified by IARC as possibly causing cancer in humans. In experimental animals, oral exposure to its C12, 59% variant plus corn oil produced tumour and early infant death.
<b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER &amp; N-(ETHOXYCARBONYLPHENYL)-N'-METHYL-N'-PHENYLFORMAMIDINE &amp; METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL SEBACATE</b>	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.
<b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome.
<b>PROPANE &amp; METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDYL SEBACATE</b>	No significant acute toxicological data identified in literature search.

<b>Acute Toxicity</b>	✓	<b>Carcinogenicity</b>	✗
<b>Skin Irritation/Corrosion</b>	✓	<b>Reproductivity</b>	✗
<b>Serious Eye Damage/Irritation</b>	✓	<b>STOT - Single Exposure</b>	✓
<b>Respiratory or Skin sensitisation</b>	✓	<b>STOT - Repeated Exposure</b>	✓
<b>Mutagenicity</b>	✗	<b>Aspiration Hazard</b>	✗

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
✓ – Data available to make classification

**SECTION 12 Ecological information****Continued...**

## HandiFoam Black Foam Sealant

## Toxicity

HandiFoam Black Foam Sealant	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
4,4'-diphenylmethane diisocyanate (MDI)	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	672h	Fish	61-150	7
	EC50	48h	Crustacea	>100mg/l	2
	NOEC(ECx)	504h	Crustacea	>=10mg/l	2
	LC50	96h	Fish	>100mg/l	2
MDI oligomer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>3.2mg/l	2
	EC50	48h	Crustacea	0.006mg/l	2
	EC50	96h	Algae or other aquatic plants	>3.2mg/l	2
	EC50(ECx)	48h	Crustacea	0.006mg/l	2
propane	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
iso-butane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	7.71mg/l	2
	EC50(ECx)	96h	Algae or other aquatic plants	7.71mg/l	2
	LC50	96h	Fish	24.11mg/l	2
dimethyl ether	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	>4400mg/L	2
	NOEC(ECx)	48h	Crustacea	>4000mg/l	1
	EC50	96h	Algae or other aquatic plants	154.917mg/l	2
	LC50	96h	Fish	1783.04mg/l	2
N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	2.53mg/l	2
	EC50	48h	Crustacea	2.7mg/l	2
	EC50(ECx)	72h	Algae or other aquatic plants	2.53mg/l	2
	ErC50	72h	Algae or other aquatic plants	29.09mg/l	2
	LC50	96h	Fish	1.4mg/l	2
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

## Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data

Very toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

for polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable.

The term chlorinated paraffins is usually taken to encompass a wide range of liquids and solids from C10 to >C24 containing 30-72% chlorine content. Properties differ significantly across this range and for this reason they are considered in three separate groups:

1. The C10-13 liquid products from 40-72% Cl2 content

2.

For Isocyanate Monomers:

Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams. They are also used in the production of adhesives, elastomers, and coatings.

For Isobutene (Refrigerant Gas): Koc: 35, (estimated); Henry's Law Constant: 4.08 atm-cu m/mole; Vapor Pressure: 2611 mm Hg @ 25 deg C; BCF: 74, (estimated).

Atmospheric Fate: Isobutane is a gas at ordinary temperatures. The substance is highly flammable and explosive.

**DO NOT discharge into sewer or waterways.**

Continued...

## HandiFoam Black Foam Sealant

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
4,4'-diphenylmethane diisocyanate (MDI)	LOW (Half-life = 1 days)	LOW (Half-life = 0.24 days)
propane	LOW	LOW
iso-butane	HIGH	HIGH
dimethyl ether	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
4,4'-diphenylmethane diisocyanate (MDI)	LOW (BCF = 15)
MDI oligomer	LOW (LogKOW = 10.46)
C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%	LOW (LogKOW = 7.4)
propane	LOW (LogKOW = 2.36)
iso-butane	LOW (BCF = 1.97)
dimethyl ether	LOW (LogKOW = 0.1)
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	HIGH (LogKOW = 5.14)

**Mobility in soil**

Ingredient	Mobility
4,4'-diphenylmethane diisocyanate (MDI)	LOW (Log KOC = 376200)
propane	LOW (Log KOC = 23.74)
iso-butane	LOW (Log KOC = 35.04)
dimethyl ether	HIGH (Log KOC = 1.292)

**SECTION 13 Disposal considerations****Waste treatment methods**

Product / Packaging disposal	<ul style="list-style-type: none"> <li>► <b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>► It may be necessary to collect all wash water for treatment before disposal.</li> <li>► In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>► Consult State Land Waste Management Authority for disposal.</li> <li>► Discharge contents of damaged aerosol cans at an approved site.</li> <li>► Allow small quantities to evaporate.</li> </ul>
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**SECTION 14 Transport information****Labels Required**

	
Marine Pollutant	NO

**Land transport (TDG)**

14.1. UN number or ID number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	Class Subsidiary Hazard	2.1 Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions Explosive Limit and Limited Quantity Index ERAP Index	80, 107 1 L Not Applicable

**Air transport (ICAO-IATA / DGR)**

14.1. UN number	1950
14.2. UN proper shipping name	Aerosols, flammable

## HandiFoam Black Foam Sealant

14.3. Transport hazard class(es)	ICAO/IATA Class	2.1
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	10L
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	A145 A167 A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	203
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y203
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

## Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	IMDG Class	2.1
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	Not Applicable	
14.5 Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	F-D, S-U
	Special provisions	63 190 277 327 344 381 959
	Limited Quantities	1000 ml

## 14.7. Maritime transport in bulk according to IMO instruments

## 14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
4,4'-diphenylmethane diisocyanate (MDI)	Not Applicable
MDI oligomer	Not Applicable
C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%	Not Applicable
propane	Not Applicable
iso-butane	Not Applicable
dimethyl ether	Not Applicable
N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine	Not Applicable
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Not Applicable

## 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
4,4'-diphenylmethane diisocyanate (MDI)	Not Applicable
MDI oligomer	Not Applicable
C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%	Not Applicable
propane	Not Applicable
iso-butane	Not Applicable
dimethyl ether	Not Applicable
N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine	Not Applicable
methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Not Applicable

## SECTION 15 Regulatory information

## Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the

Continued...

## HandiFoam Black Foam Sealant

Hazardous Products Regulations.

**4,4'-diphenylmethane diisocyanate (MDI) is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

**MDI oligomer is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)  
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

**C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58% is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Persistent, Bioaccumulative, and Inherently Toxic to the Environment  
Canada Domestic Substances List (DSL)  
Chemical Footprint Project - Chemicals of High Concern List  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

**propane is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)  
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

**iso-butane is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)  
Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS  
Chemical Footprint Project - Chemicals of High Concern List

**dimethyl ether is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

**N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine is found on the following regulatory lists**

Canada Non-Domestic Substances List (NDSL)

**methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate is found on the following regulatory lists**

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

**Additional Regulatory Information**

Not Applicable

**National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (MDI oligomer)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine; methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)
Vietnam - NCI	Yes
Russia - FBEPH	No (N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine; methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)
UAE - Control List (Banned/Restricted Substances)	No (4,4'-diphenylmethane diisocyanate (MDI); MDI oligomer; C14-17 alkanes, chlorinated-, chlorinated paraffin 52, 58%; propane; iso-butane; dimethyl ether; N-(ethoxycarbonylphenyl)-N'-methyl-N'-phenylformamidine; methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

**SECTION 16 Other information**

Revision Date	12/17/2025
Initial Date	04/13/2021

**CONTACT POINT**

\*\*PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES\*\*

Continued...

## HandiFoam Black Foam Sealant

**SDS Version Summary**

Version	Date of Update	Sections Updated
4.15	12/17/2025	Hazards identification - Classification

**Other information**

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios.

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