

Insul Foam Seal 24oz GunDoor Wndw CS12

Version 1

Revision Date 08/23/2010

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Enovate™ PRO Foam Sealant
MSDS Number : 000000014564
Product Use Description : Sealant

Company : Honeywell International, Inc.
101 Columbia Road
Morristown, NJ 07962-1057

For more information call : 800-522-8001
www.honeywell.com/enovate
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701
: Transportation: 1-800-424-9300 or +1-703-527-3887
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : viscous liquid

Color : off-white to yellowish-white

Odor : slight hydrocarbon-like

Hazard Summary : **DANGER!** Extremely flammable. Contains gas under pressure; may explode if heated. May cause eye, skin, and respiratory tract irritation. This product contains isocyanates. Very serious health effects can be seen at low exposure levels in sensitised individuals. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. May cause sensitization by skin contact.

Potential Health Effects

Skin : May cause skin irritation and/or dermatitis.
May cause sensitization by skin contact.
The product has a strong adhesive-like property and will adhere aggressively to skin and other surfaces.

Eyes : May cause eye irritation.
Signs/symptoms can include redness, swelling, pain, and

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- tearing.
Contact can cause physical damage due to the adhesive character of the product.
- Ingestion : May cause irritation of the gastrointestinal tract.
Ingestion may cause irritation to mucous membranes.
- Inhalation : May cause respiratory tract irritation.
May cause sensitization by inhalation.
Inhalation may cause pneumonitis, pulmonary edema.
Causes headache, drowsiness or other effects to the central nervous system.
May cause cardiac arrhythmia.
- Chronic Exposure : Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition.
Prolonged or repeated exposure increases the risk.
Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration
Urethane Pre-polymer blend	-	60.00 - 100.00 %
4,4'-Methylenediphenyl diisocyanate [MDI]	101-68-8	5.00 - 10.00 %
Iso-butane	75-28-5	5.00 - 10.00 %
Isocyanic acid, polymethylenepolyphenylene ester [Polymeric MDI]	9016-87-9	5.00 - 10.00 %
Dimethyl ether	115-10-6	5.00 - 10.00 %
Propane	74-98-6	1.00 - 5.00 %

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SECTION 4. FIRST AID MEASURES

- Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
- Skin contact : Remove immediately adhering matter. Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
- Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. Call a physician immediately.

Notes to physician

- Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : -68.9 °C (-92.0 °F)
- Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Halons
Foam
Water spray
If use of water is necessary use copious amounts
- Specific hazards during fire fighting : Contents under pressure.
Fire or intense heat may cause violent rupture of packages.
Vapours may form explosive mixtures with air.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
In case of fire hazardous decomposition products may be produced such as:
Hydrogen cyanide (hydrocyanic acid)
Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.
- Special protective : Wear self-contained breathing apparatus and protective suit.

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equipment for fire-fighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Wear personal protective equipment.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Eliminate all ignition sources if safe to do so.
Do not swallow.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.
- Methods for cleaning up : Ventilate the area.
Allow to solidify.
Scrape up.
Place spilled material in an appropriate container for disposal.
Before disposing of containers, relieve the container of any remaining product and pressure. Allow product to fully cure before disposing. Never discard product in a liquid state.

SECTION 7. HANDLING AND STORAGE**Handling**

- Handling : Wear personal protective equipment.
Wear nitrile rubber gloves to avoid contact with the skin.
Wear eye/face protection.
In case of insufficient ventilation, wear suitable respiratory equipment.
This product contains isocyanates.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Use only in area provided with appropriate exhaust ventilation.
Pressurized container: Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.
Keep away from sources of ignition - No smoking. Keep away from children.
Do not swallow.
Do not breathe vapours or spray mist.

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Do not get in eyes, on skin, or on clothing.

Advice on protection against fire and explosion : Keep product and empty container away from heat and sources of ignition.
 Vapours may form explosive mixtures with air.
 Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
 Use only in well-ventilated areas.
 No smoking.

Storage

Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place.
 Keep away from heat and sources of ignition.
 Pressurized container: Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
 Store away from incompatible substances.
 Protect from physical damage.
 Keep away from direct sunlight.

Storage temperature : 15.5 - 26.6 °C (59.9 - 79.9 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Use with local exhaust ventilation.
 Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection : Wear as appropriate:
 Respirator with a full face mask
 Safety goggles

Hand protection : Protective gloves
 Wear nitrile rubber gloves to avoid contact with the skin.
 Gloves must be inspected prior to use.
 Replace when worn.

Skin and body protection : Protective suit

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
 Suitable respiratory equipment:
 Half or full-face air purifying respirator equipped with organic

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vapor cartridges with dust/mist (DM) or high efficiency (HEPA) filters
 Use NIOSH approved respiratory protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 When using, do not eat, drink or smoke.
 Provide adequate ventilation.
 Remove and wash contaminated clothing before re-use.
 Wash thoroughly after handling.
 Do not swallow.
 Do not breathe vapours or spray mist.
 Do not get in eyes, on skin, or on clothing.

Exposure Guidelines

4,4'-Methylenediphenyl diisocyanate [MDI]	101-68-8	CAD AB OEL	TWA	0.005 ppm	0.05 mg/m3
		CAD BC OEL	CEILING		0.01 ppm
		Skin designation: Can be absorbed through the skin.			
		CAD BC OEL	TWA		0.005 ppm
		CAD ON OEL	CEV		0.02 ppm
		CAD ON OEL	CEV		0.8 micromoles/m3
		CAD ON OEL	TWAEV		0.005 ppm
Known toxic agent for which exposure values have not been established and to which any exposure should be avoided.					
		CAD ON OEL	TWAEV		0.2 micromoles/m3
		OEL (QUE)	TWA	0.005 ppm	0.051 mg/m3
Exposure must be minimized.					
Iso-butane	75-28-5	CAD BC OEL	TWA		1,000 ppm
		CAD BC OEL	TWA		1,000 ppm
		CAD ON OEL	TWA		1,000 ppm
		CAD ON OEL	TWA	800 ppm	1,900 mg/m3
Isocyanic acid, polymethylenepolyphen	9016-87-9	CAD AB OEL	TWA	0.005 ppm	0.07 mg/m3

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nitrogen (NOx), dense black smoke.

Hazardous reactions : Mixture reacts slowly with water resulting in evolution of CO₂.
Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity
Isocyanic acid, polymethylenepolyphenylene ester [Polymeric MDI] : LD50: > 2,000 mg/kg
Species: rat

Acute inhalation toxicity
4,4'-Methylenediphenyl diisocyanate [MDI] : LC50: 369 - 380 mg/m³
Exposure time: 4 h
Species: rat

Iso-butane : LC50: 570000 ppm
Exposure time: 15 min
Species: rat

Dimethyl ether : LC50: 308.5 mg/l
Exposure time: 4 h
Species: rat

Propane : LC50: > 800000 ppm
Exposure time: 15 min
Species: rat

Acute dermal toxicity
4,4'-Methylenediphenyl diisocyanate [MDI] : LD50: > 10,000 mg/kg
Species: rabbit

Skin irritation
4,4'-Methylenediphenyl diisocyanate [MDI] : Species: rabbit
Result: slight irritation
Method: Draize Test

Isocyanic acid, polymethylenepolyphenylene ester [Polymeric MDI] : Species: rabbit
Result: slight irritation

Eye irritation
4,4'-Methylenediphenyl diisocyanate [MDI] : Species: rabbit
Result: slight irritation
Method: Draize Test

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Sensitisation

4,4'-Methylenediphenyl
diisocyanate [MDI]

: Species: guinea pig
Result: Skin sensitizer
Classification: May cause sensitization by skin contact.
Method: Maximisation Test

Species: guinea pig
Result: Respiratory sensitizer
Classification: May cause sensitization by inhalation.

Repeated dose toxicity

4,4'-Methylenediphenyl
diisocyanate [MDI]

: Species: rat
Application Route: Inhalation
Exposure time: (90 Days)
NOEL: 0.3 mg/m³
Respiratory irritation
Lungs
Nasal inner lining

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: Species: rat
Application Route: Inhalation
Exposure time: (90 Days)
NOEL: 1 mg/m³
Respiratory irritation
Lungs
Nasal inner lining

Species: rat
Application Route: Inhalation
Exposure time: (2 Years)
NOEL: 0.2 mg/m³
Respiratory irritation
Lungs
Nasal inner lining

Genotoxicity in vitro

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: Test Method: Mutagenicity (Salmonella typhimurium - reverse
mutation assay)
Result: positive negative

Genotoxicity in vivo

4,4'-Methylenediphenyl
diisocyanate [MDI]

: Species: mouse
Cell type: Micronucleus
Test substance: 4,4'-Diphenylmethane diisocyanate (MDI)
Result: negative

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Carcinogenicity

4,4'-Methylenediphenyl
diisocyanate [MDI]

: Species: rat
 Application Route: Inhalation
 Note: Animal testing did not show any carcinogenic effects.

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: Species: rat
 Application Route: Inhalation
 Note: Exposure to a level of 6 mg/m³ polymeric MDI was related to the occurrence of lung tumors. This level is significantly over the exposure limits for MDI.

Teratogenicity

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: Species: rat
 Application Route: Inhalation exposure
 Test substance: Polymeric MDI
 Note: Exposure by pregnant animals resulted in maternal and foetal toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish

4,4'-Methylenediphenyl
diisocyanate [MDI]

: LC50: > 500 mg/l
 Exposure time: 24 h
 Species: Danio rerio (zebra fish)

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: LC0: > 1,000 mg/l
 Exposure time: 96 h
 Species: Danio rerio (zebra fish)

LC0: > 3,000 mg/l
 Exposure time: 96 h
 Species: Oryzias latipes (Orange-red killifish)

Toxicity to daphnia and other aquatic invertebrates.

4,4'-Methylenediphenyl
diisocyanate [MDI]

: EC50: > 500 mg/l
 Exposure time: 24 h
 Species: Daphnia magna (Water flea)

Isocyanic acid,
polymethylenepolyphenylene
ester [Polymeric MDI]

: EC50: > 1,000 mg/l
 Exposure time: 24 h
 Species: Daphnia magna (Water flea)

Toxicity to algae

Isocyanic acid,

: Growth inhibition

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(passenger aircraft)

IMDG	UN/ID No.	: UN 1950
	Description of the goods	: AEROSOLS
	Class	: 2.1
	Hazard Labels	: 2.1
	EmS Number	: F-D
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : Not in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) : All components of this product are on the Canadian DSL list.

Japan. Kashin-Hou Law List : Not in compliance with the inventory

Korea. Toxic Chemical Control Law (TCCL) List : Not in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : Not in compliance with the inventory

China. Inventory of Existing Chemical Substances : Not in compliance with the inventory

NZIOC - New Zealand : Not in compliance with the inventory

National regulatory information

WHMIS Classification : B1
A
D2A
D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required

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by the CPR.

WHMIS

Components : 4,4'-Methylenediphenyl diisocyanate [MDI] 101-68-8

NPRI

Components : 4,4'-Methylenediphenyl diisocyanate [MDI] 101-68-8
 : Isocyanic acid, polymethylenepolyphenylene ester [Polymeric MDI] 9016-87-9
 : Iso-butane 75-28-5
 : Dimethyl ether 115-10-6
 : Propane 74-98-6

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2*	2
Flammability	: 4	4
Physical Hazard	: 1	
Instability	:	1

* - Chronic health hazard