

INSULATING FOAM SEALANT 600 CYL SET

Version 1

Revision Date 08/24/2010

Print Date 08/24/2010

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Two-Component Foam (B-Component)
MSDS Number : 000000014420
Product Use Description : Production of polyurethane spray foam

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

For more information call : 800-522-8001
(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 : liquid

Color : light yellow to amber

Odor : slightly ether-like and amine-like

Hazard Summary : Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Container may rupture on heating. Gas reduces oxygen available for breathing. Causes asphyxiation in high concentrations. The victim will not realize that he/she is suffocating. Causes eye, skin, and respiratory tract irritation. Inhalation may cause central nervous system effects. May cause cardiac arrhythmia. May cause drowsiness and dizziness. At higher temperatures, (>250 C), decomposition products may include hydrofluoric acid (HF) and carbonyl halides. The ACGIH Threshold Limit Values (2007) for Hydrogen Fluoride are TLV-TWA 0.5 ppm and Ceiling Exposure Limit 2 ppm.

Potential Health Effects

Skin : Causes skin irritation.
Avoid skin contact with leaking liquid (danger of frostbite).
May cause frostbite.

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- Eyes** : Causes eye irritation.
Signs/symptoms can include redness, swelling, pain, and tearing.
Causes blurred vision.
- Ingestion** : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Causes headache, drowsiness or other effects to the central nervous system.
- Inhalation** : Causes respiratory tract irritation.
Gas reduces oxygen available for breathing.
Causes asphyxiation in high concentrations. The victim will not realize that he/she is suffocating.
Inhalation may cause central nervous system effects.
May cause cardiac arrhythmia.
Vapours may cause drowsiness and dizziness.
- Chronic Exposure** : Causes damage to the following organs: liver, kidneys.
May cause:
Blood disorders
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

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 |
|--|------------|-----------------|
| Proprietary Polyol Blend | - | 30.00 - 60.00 % |
| Tris(2-chloro-1-methylethyl) phosphate | 13674-84-5 | 15.00 - 45.00 % |
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 10.00 - 30.00 % |
| Diethylene glycol | 111-46-6 | 1.00 - 5.00 % |
| Bis(2-dimethylaminoethyl)(methyl)amine | 3030-47-5 | 1.00 - 5.00 % |
| Proprietary Surfactant | - | 1.00 - 5.00 % |

SECTION 4. FIRST AID MEASURES

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- Inhalation : If inhaled, 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 : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. 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 immediately.
- Ingestion : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

Notes to physician

- Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : not determined
- Lower explosion limit : not determined
- Upper explosion limit : not determined
- Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Foam
Water spray
Cool closed containers exposed to fire with water spray.
- Specific hazards during fire fighting : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
Hydrogen cyanide (hydrocyanic acid)
Amines
nitrogen oxides (NO_x)
Hydrogen fluoride
Gaseous hydrogen chloride (HCl).
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

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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.
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

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.
Use only in well-ventilated areas.
In case of insufficient ventilation, wear suitable respiratory equipment.
Keep container closed when not in use.
If contamination with isocyanates is suspected, do not reseal containers.
Do not swallow.
Do not breathe vapours or spray mist.
Do not get in eyes, on skin, or on clothing.
- Advice on protection against fire and explosion : The reaction of this product with the polymeric MDI system ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate technical datasheet for application instructions.
Keep product and empty container away from heat and sources of ignition.

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Use only in well-ventilated areas.
No smoking.

Storage

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from heat and sources of ignition.
Keep away from direct sunlight.
The product is hygroscopic.
Protect from atmospheric moisture and water.
Store away from incompatible substances.
Protect from physical damage.

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

Other data : The pressure in sealed containers can increase under the influence of heat.

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.

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

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

Skin and body protection : Wear as appropriate:
Full protective suit
Protective footwear

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
Suitable respiratory equipment:
Half or full-face air purifying respirator equipped with organic vapor cartridges with dust/mist (DM) or high efficiency (HEPA) filters
or
Wear a positive-pressure supplied-air respirator.
Use NIOSH approved respiratory protection.

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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

1,1,1,2-Tetrafluoroethane 811-97-2 HONEYWELL TWA 1,000 ppm

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid
Color : light yellow to amber
Odor : slightly ether-like and amine-like
pH : not determined
Freezing point : not determined
Boiling point/boiling range : not determined
Vapor pressure : not determined
Relative vapour density : not determined
Density : ca.1.2 g/cm³
Water solubility : partly soluble

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Keep away from heat and sources of ignition.
Protect from atmospheric moisture and water.

Materials to avoid : Isocyanates
Oxidizing agents
Acids

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- Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
Hydrogen cyanide (hydrocyanic acid)
Amines
nitrogen oxides (NO_x)
Hydrogen fluoride
Gaseous hydrogen chloride (HCl).
- Hazardous reactions : The reaction of this product with the polymeric MDI system ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate technical datasheet for application instructions.
Hazardous polymerisation does not occur.
Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity
Tris(2-chloro-1-methylethyl) phosphate : LD50: 632 mg/kg
Species: rat
- Diethylene glycol : LD50: 25.3 g/kg
Species: rat
- Bis(2-dimethylaminoethyl)(methyl)amine : LD50: 1,630 mg/kg
Species: rat
- Acute inhalation toxicity
Tris(2-chloro-1-methylethyl) phosphate : LC50: 17,800 mg/l
Exposure time: 1 h
Species: rat
- 1,1,1,2-Tetrafluoroethane : LC50: > 500000 ppm
Exposure time: 4 h
Species: rat
- Bis(2-dimethylaminoethyl)(methyl)amine : LC50: 290 ppm
Exposure time: 6 h
Species: rat

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Acute dermal toxicity

Tris(2-chloro-1-methylethyl) phosphate : LD50: > 5,000 mg/kg
Species: rabbit

Diethylene glycol : LD50: 12.5 g/kg
Species: rabbit

Bis(2-dimethylaminoethyl)(methyl)amine : LD50: 280 mg/kg
Species: rabbit

Skin irritation

Tris(2-chloro-1-methylethyl) phosphate : Species: rabbit
Result: Mild skin irritation

Diethylene glycol : Species: rabbit
Result: slight irritation
Method: Draize Test

Eye irritation

Tris(2-chloro-1-methylethyl) phosphate : Species: rabbit
Result: slight irritation

Diethylene glycol : Species: rabbit
Result: slight irritation
Method: Draize Test

Sensitisation

Tris(2-chloro-1-methylethyl) phosphate : Maximisation Test
Species: guinea pig
Result: Did not cause sensitization on laboratory animals.

Diethylene glycol : Note: Patch test on human volunteers did not demonstrate sensitization properties.

Repeated dose toxicity

Diethylene glycol : Species: rat
Application Route: Drinking Water Study
Exposure time: (90 d)
No observed adverse effect level

Bis(2-dimethylaminoethyl)(methyl)amine : Species: rat
Application Route: Inhalation
Exposure time: (2 Weeks)
: 12 ppm
Target Organs: Eyes
Symptoms: Corneal opacity
Visual disturbances – foggy vision, blue haze and halo

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Species: rat
Application Route: Inhalation
Exposure time: (2 Weeks)
: 48 ppm
Target Organs: Skin, Respiratory system
Symptoms: Local irritation

Genotoxicity in vitro

Tris(2-chloro-1-methylethyl) phosphate : Test Method: Ames test
Result: negative

Diethylene glycol

: Test Method: Chromosome aberration test in vitro
Cell type: Chinese Hamster Ovary Cells
Result: negative

: Test Method: In vitro gene mutation study in mammalian cells
Cell type: Mouse lymphoma cells
Result: positive negative

: Test Method: Ames test
Result: negative

Genotoxicity in vivo

Tris(2-chloro-1-methylethyl) phosphate : Result: negative
Note: In vivo tests did not show mutagenic effects

Reproductive toxicity

Diethylene glycol

: Species: mouse
Application Route: Oral
Note: Reproductive toxicant affecting fertility and reproductive performance at high doses.

Teratogenicity

Diethylene glycol

: Species: mouse
Application Route: Oral
Note: Animal experiments have shown toxicity to the fetus at doses toxic to the mother.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish

Tris(2-chloro-1-methylethyl) phosphate : static test
LC50: 51 mg/l

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Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

static test
LC50: 180 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill sunfish)

Diethylene glycol : LC50: 77,900 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

Bis(2-dimethylaminoethyl)(methyl)amine : LC50: 220 mg/l
Exposure time: 96 h
Species: Leuciscus idus (Golden orfe)

Toxicity to daphnia and other aquatic invertebrates.

Tris(2-chloro-1-methylethyl) phosphate : Immobilization
EC50: 131 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Diethylene glycol : EC50: 48,900 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

Tris(2-chloro-1-methylethyl) phosphate : NOEC: 6 mg/l
Exposure time: 96 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

Toxicity to bacteria

Diethylene glycol : NOEC: 8,000 mg/l
Exposure time: 16 h
Species: Pseudomonas putida

Biodegradability

Tris(2-chloro-1-methylethyl) phosphate : aerobic
Result: Not readily biodegradable.
Value: 0 %
Method: OECD 301 C

Further information on ecology

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SECTION 13. DISPOSAL CONSIDERATIONS

Waste Information: Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

TDG

| | |
|----------------------|---|
| UN/ID No. | : UN 1956 |
| Proper shipping name | : COMPRESSED GAS, N.O.S. (1,1,1,2-TETRAFLUOROETHANE) |
| Class | : 2.2 |
| Packing group | |
| Hazard Labels | : 2.2 |

IATA

| | |
|--|---|
| UN/ID No. | : UN 1956 |
| Description of the goods | : COMPRESSED GAS, N.O.S. (1,1,1,2-Tetrafluoroethane) |
| Class | : 2.2 |
| Hazard Labels | : 2.2 |
| Packing instruction (cargo aircraft) | : 200 |
| Packing instruction (passenger aircraft) | : 200 |

IMDG

| | |
|--------------------------|---|
| UN/ID No. | : UN 1956 |
| Description of the goods | : COMPRESSED GAS, N.O.S. (1,1,1,2-TETRAFLUOROETHANE) |
| Class | : 2.2 |
| Hazard Labels | : 2.2 |
| EmS Number | : F-C |
| 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 : All components of this product are on the Canadian DSL list.

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Substances List (DSL).
(Can. Gaz. Part II, Vol. 133)

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 : D2B
A
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS
WHMIS Ingredient Disclosure List IDL: No component is listed on the WHMIS ingredients disclosure list.

NPRI
Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

SECTION 16. OTHER INFORMATION

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

* - Chronic health hazard