

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT INFORMATION

Product: ZERODRAFT Z1-24 FOAM SEALANT

Manufactured in
the U.S. for: ZERODRAFT
125 Traders Blvd. East, Unit 4
Mississauga, Ont,
L4Z 2H3, Canada

Emergency Number: 1-800-424-9300 (Chemtrec)
Information Number: 1-877-272-2626 (Zerodraft)

AUGUST 13, 2005

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>PERCENTAGE</u>
Methylene bisphenyl isocyanate **	101-68-8	0.02 ppm	0.005 ppm	6 - 12
Polymethylene Polyphenyl Isocyanate	9016-87-9	*NE	*NE	21 -28
Chlorinated paraffin	61788-76-9	*NE	*NE	18 -24
Chlorinated Phosphate	13674-84-5	*NE	*NE	6 - 10
Dimethylether	115-10-6	*NE	*NE	1 - 3
Isobutane	75-28-5	*NE	*NE	6 - 10
Polyether Polyol	Mixture	*NE	*NE	18 -23

HMIS Health 3 Flammability 4 Reactivity 1

*Not established

**This product is a toxic chemical (or chemicals) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372).

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	-43.7°F (-42°C) (Estimated for Propellant)
Vapor Pressure	85 psig @ 73°F
Vapor Density (AIR = 1)	Heavier than Air
Specific Gravity (H ₂ O = 1)	1.01 g/ml at 25°C
Solubility in Water	N/A
Appearance and Odor	Gel under pressure/faint hydrocarbon odor
VOC	106 g/l

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point	Estimated: -156°F (-82°C)
Flammable Limits in air % by Volume	LEL Lower 1.8% (Estimated) UEL Upper 10% (Estimated)
Extinguishing Media	Water fog, foam, CO ₂ , or dry chemical
Fire Fighting Procedures	Fire fighters should wear full self-contained breathing apparatus and full protective clothing.
Unusual Hazards	Avoid storage temperatures above 120°F to prevent can explosions. Avoid water contamination in closed container.

SECTION V - REACTIVITY DATA

Stability	Stable under normal storage and handling conditions. Do not store above 120°F. Cured adhesive will deteriorate when exposed to UV light.
Incompatibility	Water, alcohols, strong bases, finely powdered metal such as aluminum, magnesium or zinc, and strong oxidizers.
Conditions/Hazards to Avoid	Contamination with water may form CO ₂ . Avoid high heat; i.e., flames, extremely hot metal surfaces, heating elements, combustion engines, etc. Do not store in auto or direct sunlight.

SECTION VI – HEALTH HAZARD DATA

Toxicology Test Data

MDI:

- Rat, 4 hr Inhalation LC50 - Aerosol 490 mg/m³
Highly Toxic
- Rat, 4 hr Inhalation LC50 - Vapor 11 mg/l
Toxic
- Rat, Oral LD50 - > 10,000 mg/kg
Practically Nontoxic
- Rat, Inhalation Oncogenicity Study - @ ~0.2, 1, 6 mg/m³
URT irritant; Carcinogenic @ 6 mg/m³

Polyurethane Resin NE*

Acute Overexposure Effects

Eye contact with MDI may result in conjunctival irritation and mild corneal opacity. Skin contact may result in dermatitis, either irritative or allergic. Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Air-borne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Polyurethane resin forms a quick bond with skin. Cured foam is hard to remove from skin. May cause eye damage.

Chronic Overexposure Effects

Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic symptoms of the lower respiratory tract (asthma-like), including wheezing, shortness of breath and difficulty breathing. Subsequent reactions may occur at or substantially below the PEL and TLV. Asthma caused by isocyanates, including MDI, may persist in some individuals after removal from exposure and may be irreversible. Some isocyanate sensitized persons may experience asthma reactions upon exposure to non-isocyanate containing dusts or irritants. Cross sensitization to different isocyanates may occur. Long-term overexposure to isocyanates has also been reported to cause lung damage, including reduced lung function, which may be permanent. An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure.

Carcinogenicity

Results from a lifetime inhalation study in rats indicate that MDI aerosol was carcinogenic at 6 mg/m³, the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 mg/m³). Only irritation was noted at the lower concentration of 0.2 and 1 mg/m³.

Medical Conditions Generally Aggravated by Exposure

Breathing difficulties, chest discomfort, headache, eye and nose membrane irritation.

Emergency and First Aid Procedures

Inhalation - Remove to fresh air. Give oxygen. If not breathing, give artificial respiration. Keep victim quiet. Do not give stimulants. Get immediate medical attention.

Skin - If frostbitten, warm skin slowly with water; otherwise, wash affected areas with soap and water. Remove contaminated clothing and launder before reuse. Remove wet foam immediately from skin with acetone or nail polish remover. Dried foam is hard to remove from skin. If foam dries on skin, apply generous amounts of petroleum jelly or lanolin, leave on for one hour, wash thoroughly, and repeat process until foam is removed. Do not attempt to remove dried foam with solvents.

Eye - In case of eye contact, flush with water for 15 minutes. Get immediate medical attention.

Ingestion - In case of ingestion, get immediate medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Spills/Leaks	If can ruptures, protect area from heat, sparks, flames, or static electricity. Turn off sources of ignition. Vapors are heavier than air. Make sure area is adequately ventilated. Allow curing process to complete; then dispose according to federal, state, and local regulation.
Waste Disposal	Dispose of cured adhesive per federal, state, and local regulations.
Container Disposal	Dispose according to federal, state, and local regulations.
Storage	Always store upright. Storage temperatures: min. 0°F, max. 100°F. Do not store containers in direct sunlight.
Unused Product	Dispense onto a newspaper or plastic sheeting. Let cure and dispose per federal, state and local regulations

Engineering Controls Use only with adequate ventilation. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point

SECTION VIII - PERSONAL PROTECTION

Respiratory Protection	Not applicable
Clothing	Wear gloves and safety glasses. Use in well ventilated areas only. See section IV.
Eye Protection	Safety glasses.
Ventilation	Maintain local exhaust rate to keep below TLV.

SECTION IX - REGULATORY INFORMATION

SARA - This product contains a toxic chemical (or chemicals) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR 372).

NAME	CAS NO.	AMOUNT
Methylene bisphenyl isocyanate	101-68-8	6 - 12%

CERCLA - Reportable Quantity - yes (5,000 lb. of Methylene bisphenyl isocyanate)

RCRA Hazardous Waste - No

DOT Proper Shipping Name - Consumer Commodity

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use or misuse are beyond our control, Zerodraft makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.

*NE - Not Established NA - Not Applicable