



MSDS No.: 277
Revision No.: 005
Revision Date: 04/16/02
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MATERIAL SAFETY DATA SHEET

Product name: CF 128-DW Insulating Foam for Doors and Windows
Description: Urethane resin system
Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Urethane / polyol prepolymer *	NE / Mixture	NE	NE	NE
4,4' diphenylmethane diisocyanate (free MDI) *	101-68-8	C: 20 ppb	5 ppb	NE
1,1,1,2 tetrafluoroethane	811-97-2	NE	NE	NE
Dimethyl ether	115-10-6	NE	NE	NE
Butane	106-97-8	NE	800 ppm	NE
Propane	074-98-6	1000 ppm	2500 ppm	NE

* MDI isomers and homologues are partially linked with a polyol mixture. Excess MDI is available in the mixture (container); however MDI is completely (>99.9%) reacted while curing.

Abbreviations: PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit. C = Ceiling. NE = None Established. NA = Not Applicable

PHYSICAL DATA

Appearance:	Yellow to tan liquid.	Odor:	Mild.
Vapor Density: (air = 1)	> 1 (MDI Polymer)	Vapor Pressure:	5 - 5.6 bar @ 68° F
Boiling Point:	Not determined.	VOC Content:	100 g/l
Evaporation Rate:	< .1 (ether = 1)	Solubility in Water:	Not soluble.
Specific Gravity:	1.1	pH:	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	- 40° F (propellants)	Flammable Limits:	1.9 - 27%
Extinguishing Media:	Aerosol cans: CO ₂ , Dry Chemical, Foam. Cured foam: CO ₂ , Dry Chemical, Foam, Water		
Special Fire Fighting Proc.	None known for cured foam. Uncured isocyanates react with water to release CO ₂ .		
Unusual Fire and Explosion Hazards:	Extremely flammable. Contains flammable propellants under pressure. Aerosol cans exposed to fire or direct heat can rupture from pressure build-up. CAUTION: Do not heat cold cans with a torch or flame to raise product temperature. This may cause the can to burst.		

REACTIVITY DATA

Stability:	Reacts (i.e. expands at a ratio of > 40:1 to form a polyurethane foam) upon contact with air. Contact with moisture or water will also cause material to polymerize (non-violently).
Hazardous Polymerization:	Will not occur. Reacts with water (nonviolently).
Incompatibility:	Alcohols, amines, strong bases, alkali metal compounds.
Decomposition Products:	Thermal decomposition of uncured foam can yield CO, CO ₂ , HCN, HCNO, HCl, NO _x , PO _x . Thermal decomposition products from cured foam include CO _x , NO _x and traces of HCN and HCl.
Conditions to Avoid:	Temperature extremes will shorten product shelf life; i.e. below 40° F / above 100° F. Contact with air or moisture will cause foam to polymerize (cure).

HEALTH HAZARD DATA

Known Hazards:	Acute: Eye, skin, and respiratory irritation. Chronic: Sensitization
Signs and Symptoms of Exposure:	Eyes: Can adhere to cornea. Skin: Can adhere to the skin. Can cause irritation and possibly sensitization; e.g. itching, swelling, rashes, etc. Inhalation: Vapor generated when heated to temperatures > 100° F can cause irritation of the breathing tract. Some individuals can develop an allergic (asthmatic-like) response. Ingestion: Effects of ingestion have not been determined. Not a likely route of exposure. No ill effects expected.
Routes of Exposure:	Inhalation. Contact.

Carcinogenicity:	No ingredients are classified as a carcinogen by IARC, NTP or OSHA.		
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.		
EMERGENCY AND FIRST AID PROCEDURES			
Eyes:	Immediately flush with large amounts of clean water and seek medical attention.		
Skin:	Cured product is difficult to remove from the skin. Remove immediately with soap and warm water. Acetone may remove uncured product. If material has hardened, use Hilti MC 400 Hand Cleaner or a light mineral oil. If still unable to remove, buff off with a pumice stone.		
Inhalation:	Should sensitization occur, immediately move to fresh air. Call a physician if symptoms persist. Those individuals who develop an allergic reaction should avoid future use of this product.		
Ingestion:	Seek medical attention. Do not induce vomiting unless directed by a physician.		
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure. If sensitization occurs, future contact with the material should be avoided.		
CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT			
Ventilation:	General (natural or mechanically induced fresh air movements).		
Eye Protection:	Goggles recommended; safety glasses with side shields as a minimum.		
Skin Protection:	Cotton gloves are suitable.		
Respiratory Protection:	Not normally required.		
PRECAUTIONS FOR SAFE HANDLING AND USE			
Handling and Storing Precautions:	Avoid contact. Material will adhere to eyes and skin. Contents under pressure. Extremely flammable. Do not apply direct heat to the cans. Before using, remove ignition sources such as flames or equipment / tools that generate sparks. Store in a cool dry place. Do not store in direct sunlight. Keep from freezing. Store between 40° and 100° F. Always wash thoroughly after handling chemical products. For industrial use only. Keep out of reach of children. Follow label / use instructions. Storage classifications: NFPA = Level 3; OSHA = Class 1A.		
Spill Procedures:	Wear appropriate personal protective equipment. CF 128-DW insulating foam will polymerize (cure) upon contact with air/moisture. Allow product to cure, then remove for disposal. See disposal guidelines below.		
REGULATORY INFORMATION			
TSCA Inventory Status:	Chemical components listed on TSCA inventory.		
SARA Title III, Section 313:	This product contains 5 - 15% 4, 4' diphenylmethane diisocyanate (CAS # 101-68-8) which is subject to reporting under Section 313 of SARA Title III (40 CFR Part 372). (Technical note: MDI is not available in cured foam due to reaction of parts A and B upon exposure to air; i.e. when released from the can)		
DOT Shipping Name:	Consumer Commodity, ORM-D.		
IATA / ICAO Shipping Name:	Aerosols, Class 2.1, UN 1950		
HMIS Codes:	Health 2, Flammability 3, Reactivity 1, PPE B (Goggles, Gloves)		
EPA Waste Code(s):	D003 (for aerosol cans) / not regulated if product has been dispensed and has cured		
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.		
CONTACTS			
Customer Service:	1 800 879 8000	Technical Service:	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (other countries)		

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