



The Dow Chemical Company
2050 North Broadway
Joliet, Illinois 60435

Telephone / Fax
For Emergency: Chemtrec
Call Collect

(815) 774-6500 / 774-6546
(800) 424-9300 (USA)
(703) 527-3887 (Non-USA)

MATERIAL SAFETY DATA SHEET

1	PRODUCT	FROTH-PAK 180 (A Component) B2, NCFC, 1.75 Density			
2	COMPOSITION				
	<u>CHEMICAL</u>	<u>CAS#</u>	<u>CONCENTRATION</u>	<u>REGULATED¹</u>	
	4,4-Diphenylmethane-diisocyanate (MDI)	101-68-8	60-100%	Yes	
	Polymeric MDI	9016-87-9	40-70%	Yes	
	Tetrafluoroethane	811-97-2	7-13%	No	
	(1-see regulatory section for more information) (2-different raw material sources) Appearance: Dark brown, frothy liquid with a mild odor.				
3	HAZARDS IDENTIFICATION				
		CAUTION!	Contents under pressure.		
		Irritancy of Product:	Irritating to eyes, skin and respiratory tract.		
		Sensitizing Properties:	May cause sensitization by skin contact and inhalation. Exposure to individuals with asthma, eczema and or allergies may aggravate existing conditions. Symptoms may include: coughing, wheezing and shortness of breath.		
		Routes of Entry:	Eye and skin contact, inhalation, ingestion.		
		<table border="1"> <tr> <td>HMIS: H F R PPE 2 1 0</td> </tr> </table>			HMIS: H F R PPE 2 1 0
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4	FIRST AID MEASURES				
	EYE	flush with clean, low pressure water for 15 minutes while holding eyelids open.			
	SKIN	remove contaminated clothing; wash skin with soap and water.			
	INHALATION	remove to fresh air.			
	INGESTION	in case of excessive ingestion, give large amount of liquids. Do not induce vomiting.			
5	FIRE-FIGHTING MEASURES				
	Flash Point:	>390°F (>199°C) (estimated)			
	Extinguishing Media:	Carbon Dioxide, Dry Chemical, Foam, Water			
	Special Protective Equipment:	Self Contained Breathing Apparatus			
	Hazardous Decomposition Products:	During combustion, Carbon Monoxide and Carbon Dioxide, Nitrogen Oxides, Ammonia and trace amounts of Hydrogen Cyanide are given off.			
6	ACCIDENTAL RELEASE MEASURES				
		Provide adequate ventilation. Wear suitable personal protective clothing and equipment. Contain spill and collect using suitable absorbant material such as sawdust or vermiculite. Shovel into waste container adding decontaminate solution. (90% water, 7% ammonia and 3% detergent) Leave uncovered for 24 hours prior to disposal.			
7	HANDLING AND STORAGE				
		CAUTION! Contents under pressure. Avoid open flames. Storage temperature: <120°F (<49°C) Do not puncture or incinerate.			
	Prepared by: A. Jarocho File Name: CON-102A	Reference No: CON-102A (12/97) Date of Issue: 11/99	(pg. 1 of 2)		



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8	EXPOSURE CONTROLS/PERSONAL PROTECTION			EYE wear safety goggles. SKIN wear protective clothing. RESPIRATORY use only in well-ventilated areas. With insufficient ventilation, or in situations where the potential exists for exceeding the TLV, wear Self Contained Breathing Apparatus.						
9	PHYSICAL AND CHEMICAL PROPERTIES			Vapor Pres. (21°C/70°F): 2700mmHg Specific Gravity: 1.3 VOC Content (lb/gal): 0						
10	STABILITY AND REACTIVITY			Reacts with water. Avoid alkalis, acids, alcohol and ammonia. Reaction may be violent at elevated temperatures.						
11	TOXICOLOGICAL INFORMATION			Concentrations of components (Sec. 2) must be considered to determine effects of this mixture. MDI: LD50 15gm/kg (rat); ingestion CAUTION! Irritancy of Product: Irritating to eyes, skin and respiratory tract. Sensitizing Properties: May cause sensitization by skin contact and inhalation. (Acute and Chronic) Exposure to individuals with asthma, eczema and or allergies may aggravate existing conditions. Symptoms may include: coughing, wheezing and shortness of breath. Routes of Entry: Eye and skin contact, inhalation, ingestion.						
12	ECOLOGICAL INFORMATION			Unknown						
13	DISPOSAL INFORMATION			Do not puncture or incinerate. Relieve all pressure prior to disposal. Empty cylinders, once relieved of all pressure, can be disposed as non-hazardous waste. Dispose of leftover chemical by following instructions under "Accidental Release Measures".						
14	TRANSPORTATION INFORMATION			Compressed gases, N.O.S., (Nitrogen, Tetrafluoroethane), 2.2 UN1956						
15	REGULATORY INFORMATION			<table border="0"> <tr> <td data-bbox="220 1314 511 1339"><u>EXPOSURE LIMITS</u></td> <td data-bbox="513 1314 820 1339"><u>TWA (8 hour), mg/m³</u></td> <td data-bbox="846 1314 1507 1339"><u>SHORT TERM(10 mins), mg/m³</u></td> </tr> <tr> <td data-bbox="220 1341 511 1392">4,4-Diphenylmethane-diisocyanate (MDI)</td> <td data-bbox="513 1341 820 1367">0.05 (0.005ppm)</td> <td data-bbox="846 1341 1507 1367">.2 (0.02ppm) ceiling</td> </tr> </table>	<u>EXPOSURE LIMITS</u>	<u>TWA (8 hour), mg/m³</u>	<u>SHORT TERM(10 mins), mg/m³</u>	4,4-Diphenylmethane-diisocyanate (MDI)	0.05 (0.005ppm)	.2 (0.02ppm) ceiling
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	<u>REGULATED CHEMICAL</u> 4,4-Diphenylmethane-diisocyanate (MDI) PMDI	<u>APPLICABLE REGULATIONS</u> SARA 311/312/313, CAA 1990 Toxic air Pollutant SARA 313								
16	OTHER INFORMATION			N/A						
Prepared by: A. Jarocho File Name: CON-102A		Reference No: CON-102A (12/97) Date of Issue: 11/99 (pg. 2 of 2)								