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MATERIAL SAFETY DATA SHEET

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Supercedes All Previous Publications

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=====SECTION I PRODUCT INFORMATION=====

PRODUCT NAME: SLOW RISE FOAM ADHESIVE (591-A)  
PART A

Polymethylenepolyphenylisocyanate  
CHEMICAL FAMILY: Aromatic Isocyanate  
FORMULA: N/A

=====SECTION II HAZARDOUS INGREDIENTS=====

NAME	CAS NO.	%	PEL
Diphenylmethane diisocyanate (MDI) <sup>1</sup>	101-68-8	Approximately 50	0.02 ppm ceiling
Higher polymers of similar structure <sup>1</sup>	9016-87-9	Approximately 50	Not established

<sup>1</sup> Not listed as a carcinogen (NTA, IARC, OSHA)

=====SECTION III PHYSICAL DATA=====

Boiling Point: 625°F

Specific Gravity: 1.24

Solubility in Water: Insoluble, reacts

% Volatile by Volume: None

Appearance and Odor: Brown liquid, slightly aromatic odor

=====SECTION IV FIRE AND EXPLOSION HAZARD DATA=====

Flash Point (test method): 390°F (Pensky-Martens)

Extinguishing Media: Water, dry chemicals, CO<sub>2</sub>

Special Fire Fighting Procedures: A self-contained breathing apparatus should be worn to protect against toxic and irritating vapors.

Unusual Fire And Explosion Hazards: At temperatures above 400°F, MDI can polymerize/decompose causing pressure build-up in closed containers and possibly rupture. Avoid water contamination in closed containers which may cause rupture (CO<sub>2</sub> is evolved).

=====SECTION V REACTIVITY DATA=====

Stability: Stable

Conditions to Avoid: Contamination with water.

Polymerization: May occur of in contact with water or other isocyanate reactive materials.

Incompatibility: Water, alcohols, amines, strong bases.

Hazardous Decomposition Products: By higher heat or fire: CO, CO<sub>2</sub>, NO<sub>x</sub>, benzene, toluene, aliphatic fragments. Traces of HCN.

=====SECTION VI HEALTH HAZARD DATA=====

Permissible Exposure Limit: 0.02 ppm ceiling for MDI

Effects of Overexposure: May cause skin or eye irritation upon contact. Inhalation of MDI vapors may cause breathlessness, chest discomfort, coughing and reduced pulmonary functions. Exposure may produce asthma-like symptoms, also may lead to allergic sensitivity.

First Aid Procedures

Eyes: Flush with flowing water for at least 15 minutes, then obtain medical attention.

Skin: Remove contaminated clothing and wash off with soap & water.

Inhalation: Remove to fresh air, administer oxygen if necessary.

Ingestion: Drink large amounts of water. See a physician.

=====SECTION VII SPECIAL PROTECTION INFORMATION=====

Ventilation: MDI has a very low vapor pressure at room temperature. General/local ventilation typically control exposure levels very adequately. Uses requiring heating and/or spraying may require more aggressive engineering controls or personal protective equipment. Monitoring is required to determine engineering controls.

Respiratory Protection: A supplied air, full face mask, positive pressure or continuous flow respirator or a supplied air hood is required when airborne concentrations are unknown or exceed threshold values. A positive pressure self contained breathing apparatus can be used in emergencies or other unusual situations. All equipment must be NIOSH/MSHA approved and maintained. Air purifying (cartridge type) respirators are not approved for protection against isocyanates.

Eye Protection: Wear goggles or chemical safety glasses.

Gloves: Chemically resistant rubber or plastic.

Other: Avoid eye and skin contact. Eye wash system and safety showers should be available.

=====SECTION VIII SPILL OR LEAK PROCEDURES=====

Contain spill. Absorb with sawdust, etc., and shovel into open top drum. Decontaminate absorbent and spill area with 2% detergent/water solution. Let waste stand for 1 of 2 days, then dispose of waste in a licensed facility. Respiratory protection/ventilation is recommended during clean-up.

=====SECTION IX SPECIAL PRECAUTIONS=====

Store between 65°F and 85°F out of sunlight. Keep tightly sealed to prevent moisture contamination. Relieve pressure slowly when opening container. Once opened, protect contents from water with dry atmosphere (-40°F dew point). If isocyanate becomes contaminated, do not reseal. Empty isocyanate drums or other containers should be decontaminated by filling with water or decontamination solution, preferably outdoors. Allow to stand for 24-48 hours, open to the atmosphere. DO NOT SEAL DRUMS OR CONTAINERS. Drain the drums and puncture to prevent reuse. Dispose of as ordinary industrial waste.

=====SECTION X PREPARATION INFORMATION=====

**DISCLAIMER:** The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

Prepared By: 2001 Inc.