



5630 Memorial Ave. Ste 2 (Office)
11222 60th Street North (Plant)
P.O. Box 53 (Mailing)
Stillwater, Minnesota 55082 U.S.A.

Telephone: 1-651-430-2270
FAX: 1-651-430-3634

www.polywater.com
custserv@polywater.com

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Safety and Urethane Foams

American Polywater's FST Foam Sealant Part A contains 40% ($\pm 5\%$), by weight, 4,4'-Diphenylmethane Diisocyanate (MDI). Isocyanates such as MDI are highly reactive chemicals used to produce *all* polyurethane products. Polyurethanes are common in the construction industry and have been used for many years. They are used for their sealing and insulating qualities and because they are relatively inexpensive. Because of the health hazards associated with isocyanates, precautions must be observed during use and handling of these materials. With safe work procedures, polyurethanes may be used with no ill health effects.

The two main routes of exposure of concern are inhalation (breathing) and skin contact. The MDI type of isocyanate found in the FST Foam Sealant has a very low vapor pressure and is considered *non-volatile*. This is not a likely route of exposure. Even so, the recommended TLV's on this product are very low, 0.02 ppm OSHA PEL. Through the inhalation of isocyanates, certain individuals may become sensitized and develop asthma-like reactions and symptoms. The symptoms may begin to occur after prolonged or repeated contact and vary by the individual. Once sensitized, the individual will experience these symptoms even with a very limited exposure, lower than the established TLV's. It is important to use these products with proper respiratory control and good ventilation. The use of an air supplying respirator is recommended.

Skin sensitization is possible, though not as common as respiratory sensitization. It results in a rash similar to eczema. Dermal contact with isocyanate may cause rashes, blisters and other indications of skin irritation. Repeated skin exposure has also been associated with respiratory sensitization. Gloves should always be worn when working with these products. Protective clothing, goggles or glasses with side shields are also strongly recommended.

The use of FST in the prepackaged cartridge controls and reduces exposure. Mixing is done through mixing nozzles included in the packaging. Once reacted, the foam is a solid, closed-cell polyurethane. The finished product may be considered non-toxic, unless burned or handled in a way that creates dust.