Monsanto
COMPANY

800 N. Lindbergh Boulevard
St. Louis, Missouri 63166
(314) OXford 4-1000

# THERMINOL FR-LO-TEMP

## Toxicity and Safe Handling Information

On the basis of animal toxicity studies with other Therminol fluids, Therminol FR-LO-TEMP may be considered moderately toxic from the standpoint of accidental massive skin exposure and only slightly toxic if accidentally ingested. Single exposures to high concentrations of vapors (when heated sufficiently to volatilize) or high concentrations of decomposition products (if the fluid is accidentally discharged into the fire chamber) should not be serious hazards because the irritating character of such concentrations preclude voluntary exposure.

Repeated or prolonged skin exposure should be avoided since the fluid acts as a solvent for fats and oils of the skin. Removal of these natural, protective barriers can lead to drying and chapping such as occurs with exposures to paint thinners. More important, Therminol FR-LO-TEMP may be absorbed if it is allowed to remain on the unbroken skin. For these reasons, we recommend that the skin be washed with soap and water if there is contact. A skin burn resulting from accidental contact with hot fluid should be treated in the normal manner for any thermal burn due to hot oils.

Because of its low vapor pressure, there is no significant vapor inhalation hazard when the fluid is at room temperature. For example, there is no vapor exposure problem while transferring the Therminols from shipping containers to the heat transfer system. On the other hand, the vapors emitted when the fluid is heated to elevated temperatures are injurious on prolonged exposure. It is estimated that the "threshold limit value" or atmospheric vapor concentration which cannot be safely exceeded (on a daily basis is 0.5-1.0 milligrams of vapor per cubic meter of air in the workroom. In heat transfer installations, the fluid must be used in a closed system free from leaks with the expansion tank vented to the outdoors. Accordingly, there should be little or no opportunity for workers to come in contact with vapors.