~~THERMINOL~~ Aroclor 1242

St. Louis

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You have asked about the toxicity statements on Santotherm FR-Lo Temp, Santotherm FR-O, and Santotherm 77. The U.S.A. name for these is Therminol instead of Santotherm and you may have some information under that designation.

Santotherm 77 is bis-phenoxybiphenyl and is not chlorinated at all. From the acute point of view it is classified as practically non-toxic by oral ingestion, having an oral LD_{50} to rats of 40 g/kg. The material was non-toxic to rabbits by skin application and was classified as non-irritating to intact rabbit skin. It was considered a slight eye irritant with a score of 12 out of a possible 110. Vapor inhalation at both 76° F and 120° F for six hours showed no evidence of toxicity. I would conclude, therefore, that this compound is about as non-toxic from the acute point of view as any industrial chemical.

Santotherm FR-Lo Temp and FR-O are, of course, varying mixtures of Aroclor 1242 and tetratrichlorobenzene. We have acute toxicity data on Therminol FR-O and I think we can extrapolate to Santotherm FR-Lo Temp.

FR-O has an oral toxicity to rats of 4200 mg/kg, which compares to an oral LD_{50} for Aroclor 1242 of either 5300 mg/kg or 8600 mg/kg. Skin absorption with FR-O showed an MLD to rabbits between 501 and 795 mg/kg, whereas with Aroclor 1242 the figures were greater than 794 and less than 1260 mg/kg. Eye irritation showed the material is a moderate eye irritant with a score of 41 out of 110 in 24 hours.

I think, therefore, that we will have to assume that the toxicity of FR-Lo Temp and FR-O is of the same magnitude of Aroclor 1242 and all the precautions that apply to the Aroclor 1242 would apply to the FR compounds. I think the tetratrichlorobenzene enhances the skin absorption and the absorption from the intestinal canal of the Aroclor 1242. Thus, Santotherm FR-Lo Temp might prove more toxic than FR-O, although we have not carried out experimental studies. We have at one time shown that Aroclor in oil is much more toxic from the dermal point of view than Aroclor plain.

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