

St. Louis, Mo. - General Offices

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Safe Handling of Union Carbide's
UNOX Epoxide 201 - Additive for Pyranol A13B3B

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*Exp. to
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A 246

We understand that one or both of your plants will shortly be handling Carbide's UNOX Epoxide 201 in formulating G.E.'s new Pyranol A13B3B.

Animal toxicity data provided by Union Carbide indicate that the Epoxide (a dicyclo-diepoxy carboxylate) has an oral LD₅₀ in rats of approximately 5 grams per kilogram, (about the same as isopropyl alcohol). It did not kill rabbits when applied to the skin in doses up to 10 grams per kilogram indicating that it is not readily absorbed.

In appropriate irritation and skin sensitization tests, it was found to be neither an irritant nor a sensitizer.

For some reason Carbide then painted the Epoxide on the skin of mice three times a week for a year. This produced some tumor formation and occasional skin cancers in the animals at the point of contact. The Carbide report states:

While the evidence indicates that UNOX Epoxide 201 is not a highly active tumor causing agent, the mere fact that such reactions were demonstrated suggests the need for avoidance of skin contact and the inhalation of mists and fumes by humans. For comparison, it is felt that UNOX Epoxide 201 is considerably less tumorigenic than coal tar pitch.

Our laboratories have further studies in progress with other samples of UNOX 201 to determine whether the above results were characteristic only of the specific sample tested.

In the meantime, this product will bear the following precautionary labeling - **Warning: Prolonged and Repeated Contact May Cause Delayed and Serious Injury to Skin.** Do not get on skin or clothing. Avoid inhalation of vapors or mists. In case of contact with skin, wash thoroughly with plenty of soap and water. Remove contaminated clothing and shoes. Wash thoroughly before reuse."

In correspondence with G.D., the Carbide Medical Department has said that they felt that the Pyranol formulation containing this scavenger presented no tumorigenic hazard. I thought you should be aware of the above, however, since the Carbide label text - "prolonged and repeated contact may cause delayed and serious injury to the skin" - might raise the question of what the "delayed and serious injury to skin" implies.

I am sure your Analytical departments will want to insist on avoiding prolonged and repeated skin contact.

Elmer P. Wheeler

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