August 9, 1957

Mr. J. A. Spence
Senior Industrial Hygienist
Standard Oil Company of California
225 Bush Street
San Francisco 20, California

Dear Mr. Spence:

Elmer Wheeler is on his vacation at present so I am taking the liberty of answering your letter of August 7.

Santolube 393 is a brown liquid petroleum additive with an Oral LD_{50} in rats of 2.1 grams per kilogram. Autopsy of the experimental animals indicated abnormally dark and hyperemic liver and spleen and the gastrointestinal tract appeared irritating and gaseous.

We would class this compound as only "slightly toxic" from an oral ingestion standpoint. It has a skin MLD in rabbits of 5.6 to 7.0 grams per kilogram. The usual skin irritation tests were not performed but the results of the skin absorption studies indicated that the material was moderately irritating to the skin leaving it dry and wrinkled with no blister formation.

The usual eye tests were not performed but the skin studies indicated that the material would be quite irritating to eye tissues.

OS-67 is a hydraulic fluid with an Oral LD_{50} in rats of 52 grams per kilogram. These high feeding levels caused severe diarrhea in the animals and other symptoms indicative of the very high levels fed. Autopsy showed pulmonary congestion as the only important visceral change noted. The oral toxicity in rabbits showed an MLD of 3.5 to 4.5 grams per kilogram. Autopsy indicated liver discoloration and moderate pulmonary hyperemia. Skin absorption studies again using rabbits showed an MLD by this route of 4.0 to 5.0 grams per kilogram.

Atuopsy showed no specific abnormalities. Skin irritation studies using rabbits gave an average score of 0.3 out of the possible 8.0. All animals recovered to almost normal within 72 hours and completely normal after five days.

Eye irritation studies indicated a score of 7.3 out of the possible 110 after one hour. Moderate redness of the palpebral conjunctivae, considerable lacrimation and slight edema developed. The iris and cornea were affected little. The lacrimation and edema practically disappeared overnight leaving a score of 3.3. All animals recovered with no permanent effect.

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We would classify this compound as "slightly toxic" to "relatively harmless" based on the oral tests. It is practically non-toxic by skin absorption and is only a mild skin and eye irritant.

If we can be of any further help, please let us know.

Sincerely yours,

Jack T. Garrett
Industrial Hygienist
Medical Department

JTG:dh