UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Captan- Revised Q_1^*, (3/4's Interspecies Scaling Factor), Low-Dose Mouse Dietary Study for 96 weeks
PC 081301 Caswell No. 159

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The revised unit risk, $Q_1^*(mg/kg/day)^{-1}$ of Captan, based upon female mouse gastrointestinal tract glandular tumors (stomach,duodenum &/or jejunum/ileum -adenomas &/or carcinomas) is $1.21x10^{-3}$ in human equivalents (converted from animals to humans by use of the 3/4's scaling factor-1994,Tox_Risk,3.5-K.Crump)[a]. The dose levels used in the CD-1 mouse study (LSD Bio/dynamics, 1983-for Chevron) were 0, 100, 400, 800, and 6000 ppm. of Captan. The corresponding tumor rates in the female mice were 0/100, 1/100, 3/100, 3/100 and 7/100 respectively. These doses and rates were obtained from Captan Special Review Position Document 2/3 June,1985 pg.II-52.

[a] See Memo - Deriving Q_1^*s Using the Unified Interspecies Scaling Factor, P.A. Fenner-Crisp, Director-HED, 7/1/94.

cc: Caswell file
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Dose-Response Analysis

Since the female mice did not have statistically significant differential mortality with incremental doses of Captan, the estimate of unit risk, Q_1^*, was obtained by the application of the Multi-Stage model (Tox_Risk program, version 3.5 - K.Crump).

The estimate of unit risk, Q_1^*, was based upon tumors in the glandular cells of the gastrointestinal tract (adenoma and/or carcinoma) observed in female mice.

For the conversion to human equivalents, weights of .03 kg for the mouse, 70 kg for humans and the 3/4's scaling factor were used.

It is to be noted that Q_1^* $(mg/kg/day)^{-1}$ is an estimate of the upper bound on risk and that (as stated in the EPA Risk Assessment Guidelines) "the true value of the risk is unknown, and may be as low as zero."