



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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MEMORANDUM

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: EPA ID # 081301: Captan Technical - Review of Mutagenicity Studies with Captan.

Tox. Chem. No.: 159  
MRID No.: 00062982; 00131710; 000138762;  
00073207; 00149489; 00124901  
DP barcode: D197019  
PC Code: 081301  
Submission No.: S453985

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Section 2  
Toxicology Branch I  
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Thru: Joycelyn Stewart, Ph.D. *KB* 12/20/93  
~~John~~ Section Head  
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Registrant: ICI Americas, Inc.

CONCLUSIONS:

Six mutagenicity studies with captan were reviewed by the Toxicology Branch I. [Detailed reviews are appended to this memorandum.]

The summaries of the reviews are as follows:

Study	MRID No.	Guideline No and Study Type	Results
1	0006 2982	84-2 (b) Mutagenicity in vivo cytogenetic	The study is unacceptable because high dose tested did not elicit a toxic or cytotoxic response and only male rats were used.



Study	MRID No.	Guideline No and Study Type	Results
2	0013 1710	84-2 (b) Mutagenicity Chrom. Aberration	The results are inconclusive regarding the potential of captan to induce this type of inherited chromosome aberration. Progeny of F0 male mice fed 2500 or 5000 ppm captan for 8 weeks yielded only one demonstrable reciprocal translocation in F1 male meiotic metaphases. This finding cannot be interpreted since it is well above the expected background frequency and a translocation was also observed in the vehicle control group.
3	0013 8762	84-2 (a) Ames	The lack of quantitative results renders the study unacceptable as an individual data source.
4	0007 3207	84-2 (a) Ames	The lack of quantitative results renders the study unacceptable as an individual data source.
5	0014 9489	84-2 (a) Ames	This study is acceptable. Captan is a mutagen and full compliance with guideline requirements is not necessary for this special modified Salmonella study (no S9-activation, no positive controls, and the use of strain TA100 only).
6	0012 4901	84-2 (a) Ames	The lack of quantitative results renders the study unacceptable as an individual data source.

Although some (Studies 1-4 and 6) are unacceptable, they do not have to be repeated because data are available to satisfy the mutagenicity requirements for captan. There are no data gap for mutagenicity.

**REQUESTED ACTION:**

The Reregistration Division requested that the Toxicology Branch review the following six mutagenicity studies with captan:

1. Captan-Spritzpulver AA Captan: Investigation of effects on bone marrow chromosomes of the rat after sub-acute oral administration; Life Science Research, Essex, England; Study No. 79/MAK008/292; 5/25/79; EPA MRID No. 00062982.
2. Mutagenesis Studies of Pesticide Compounds--Mouse heritable translocation test-- captan; SRI International; Study No. LSU-3493; May 1980; EPA MRID No. 00131710.

3. In Vitro Screening for Mutagenic Activity Using Genetically-Defined Strains of E. coli and Salmonella typhimurium; Boots Company, Ltd; Study No. TX 74007; 2/8/74; EPA MRID No. 00138762.
4. Excerpts from Mutagenesis Induced in Mutant Strain of Salmonella typhimurium by Pesticides; Pesticide Research Lab. Penn. State Univ.; Study No.-- not available; 8/30/77; EPA MRID No. 00073207.
5. Microbial/Mammalian Microsome Mutagenicity Plate Incorporation Assay; Chevron Environmental Health Center; Study No. SOCAL 2042; 12/18/84; EPA MRID No. 00149489.
6. Evaluation of Selected Pesticides as Chemical Mutagens In Vitro and In Vivo Studies; SRI International; 5/77; Study No. 600/1-77-028; EPA MRID No. 00124901.

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