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**rdenison@environmentaldefense.org**

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To: oppt.ncic@epamail.epa.gov, ChemRTK HPV@EPA, Rtk Chem@EPA, Karen Boswell/DC/USEPA/US@EPA, gwright@biolabinc.com, geripest@aol.com, NCIC HPV@EPA

cc: luciarg@msn.com, kflorini@environmentaldefense.org, rdenison@environmentaldefense.org

Subject: Environmental Defense comments on Sodium dichloro-s-triazinetrione (CAS# 2893-78-9) and its dihydrate (CAS# 51580-86-0)

(Submitted via Internet 12/17/03 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, luciarg@msn.com, gwright@biolabinc.com, and geripest@aol.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for Sodium dichloro-s-triazinetrione (CAS# 2893-78-9) and its dihydrate (CAS# 51580-86-0).

The test plan and robust summaries for sodium dichloro-s-triazinetrione (DSTT) and sodium dichloro-s-triazinetrione dihydrate (DSTTD) were submitted by the Isocyanurate Industry Ad Hoc Committee, comprised of 11 member companies. It uses most of the same robust summaries as does their companion submission on trichloro-s-triazinetrione (TSTT), and TSTT is also used as a surrogate chemical for DSTT and DSTTD. Given this, we are puzzled why the two submissions were not combined and the three chemicals treated as a category. In any event, this submission suffers the same problems as the TSTT submission and our review is very similar.

While not strictly required, information on the uses of DSTT and DSTTD would be extremely helpful in evaluating the likelihood of environmental releases or consumer or worker exposures. We would encourage the sponsors to include such information in the test plan.

The chemical name suggests that it is closely related to the pesticide, Atrazine. Is this correct?

The sponsors propose to use surrogates, isocyanuric acid and TSTT, to fulfill many of the SIDS endpoints. We agree that TSTT is an appropriate surrogate, but the justification presented in the robust summaries for the isocyanurates is inadequate. Therefore, we recommend that additional studies be conducted on the full range of environmental fate and distribution endpoints as well as the genetic toxicity and reproductive/developmental toxicity endpoints, using either DSTT or DSTTD as the test substance. For the other endpoints, sufficient data are available to meet HPV requirements.

The following lists some of our concerns regarding the proposed use of isocyanuric acid as a surrogate:

1. The sponsors state in their cover letter that EPA agreed in the 1992 registration documents that "isocyanuric acid can represent all the chlorinated isocyanurates for the purpose of conducting metabolism, subchronic, chronic, developmental and mutagenic studies." We find this hard to believe based on the information provided in this HPV submission. If there is a more convincing justification, it should be made publicly available.

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2. The test plan, robust summaries and cover letter total 129 pages, yet nowhere are the structures of cyanuric acid, DSTT, DSTT and TSTT provided -- information essential to evaluating the adequacy of the proposal to use surrogates.

3. The sponsors repeatedly state in the robust summaries that DSTT and DSTTD are unstable in the environment because the available chlorine moiety is rapidly reduced, and hence that isocyanuric acid or its salts can be used as a surrogate for DSTT and DSTTD. No actual data are provided, however, on the breakdown products and the toxicological relevance of these repetitive statements is not supported. It appears that HOCl is liberated in aqueous environments but no experimental information is provided on this or any other degradation products. Since degradation to cyanuric acids is the claimed justification for use of it as a surrogate, information on the complete degradation pathways for DSTT and DSTTD would need to be provided in the robust summaries.

4. Toxicokinetic information is supplied for the cyanuric acids, but not for DSTT or DSTTD. This is critical for any evaluation of the suitability of using cyanuric acids as a surrogate in mammalian toxicology studies.

5. The robust summary states that HOCl, a degradation product of DSTT, is highly reactive. Highly reactive molecules are frequently toxic; the toxicity of HOCl should be included in the test plan and robust summaries as part of any justification for use of a surrogate.

6. Aquatic toxicity data presented in the robust summaries indicate that DSTT is approximately 1000 times more toxic than the proposed isocyanuric acid surrogates. If this is the case, then how can the use of isocyanuric acid as a surrogate be justified?

7. Acute toxicity data in rodents indicate that DSTT is approximately 10 times more toxic than the isocyanuric acid surrogates. If this is the case, then how can the use of isocyanuric acids as a surrogate be justified for other mammalian toxicity endpoints?

8. The methods for the repeat dose study of DSTT did not indicate that a complete histological evaluation was conducted. If not, then the sponsors may need to conduct an additional repeat dose study on DSTT, DSTTD or TSTT.

Thank you for this opportunity to comment.

George Lucier, Ph.D.  
Consulting Toxicologist, Environmental Defense

Richard Denison, Ph.D.  
Senior Scientist, Environmental Defense