

Review Summary of the National Institute of Environmental Health Sciences (NIEHS/NTP) RoC Review Committee (RG1)

Nomination: 4,4'-Thiodianiline

Review committee: RG1

Date: 2/06/02

Major issues discussed

◆ Application of criteria:

Exposure: inadequate evidence. Not available prior to the meeting was an email from a representative from the chemical manufacturers noting that 4,4'-thiodianiline was not manufactured in the United States and had very limited use. It was stated that only approximately 200 pounds were imported per year.

Sufficient evidence in experimental animals: Multiple species – mice (male and female) and rats (male and female)

▪ Feed studies

Mice (male and female): significant increase in incidence of malignant liver and thyroid tumors – *clear evidence of carcinogenicity*

Female Rat: significant increase in incidence of malignant tumors of the thyroid (follicular cell carcinoma) and uterus (adenocarcinoma) and tumors of the ear canal (Zymbal's glands) were also felt to be related to treatment – *clear evidence of carcinogenicity*

Male Rat: significant increase in incidence of malignant tumors of the liver, thyroid, and tumors of the ear canal (Zymbal gland tumors). Marginal increases in adenocarcinoma of the colon may also have been related to 4, 4'-thiodianiline exposure - *clear evidence of carcinogenicity*

◆ Other scientific concerns

- Related dianilines tested by the NTP
- Caused similar tumors at similar sites
- Human studies
- no humans studies specific for the effects of 4, 4'-thiodianiline and cancer. The evidence for significant human exposure is weak.

Recommendation:

Motion: Recommend 4,4'-thiodianiline to be listed as *reasonably anticipated to be a human carcinogen* based on sufficient evidence in animals.

Votes: 6/yes 2/no The dissenting votes were because these members did not feel that point (ii) on sufficient exposure had been satisfied.