carcinogenicity, a summary of that evaluation will be contained in Section II of this file.

__I.A.1. Oral RfD Summary

Critical Effect	Experimental Doses*	UF	MF	RfD
Increased liver weights and centrilobular hypertrophy Rat oral subchronic study U.S. EPA, 1986	NOAEL: 25 mg/kg/day LOAEL: 100 mg/kg/day	1000	1	3E-2 mg/kg/day

*Conversion Factors: none

__I.A.2. Principal and Supporting Studies (Oral RfD)

U.S. EPA. 1986. 2,3,4,6-Tetrachlorophenol. 90-Day subchronic oral toxicity study in rats. Office of Solid Waste, Washington, DC.

Sprague-Dawley rats (30/sex/dose) were gavaged daily with 0, 25, 100 or 200 mg/kg/day 2,3,4,6-tetrachlorophenol in olive oil. Body weight gain, food consumption, clinical signs of toxicity and mortality were recorded throughout the study. Clinical pathology was performed on 10 rats/dose/sex both at 44-45 day interim sacrifice interval and after 90 days; gross pathology was performed on all animals sacrificed at interim or final sacrifice and on all animals found dead or sacrificed moribund. Histopathological evaluations were also conducted in animals sacrificed at 90 days as well as in the cases of unscheduled death. Results of this study indicated that at 200 mg/kg/day dose male rats showed progressive depression of body weights 3 weeks after the onset of dosing; these body weight depressions were significantly different from controls during week 4, and weeks 8 through 12. No such difference was observed in females. Liver and kidney weights and relative liver and kidney weights (ratio to body and brain weight) were significantly higher than controls both in males and females at the time of sacrifice. Centrilobular hypertrophy was observed histopathologically in 15 males and 6 females at this dose (200 mg/kg), compared with none seen in control. Females in the 200 mg/kg group had significantly reduced platelet count (increased alkaline phosphatase levels), and increased BUN levels at 100 and 200 mg/kg; whereas males in the high-dose group had increased SGPT levels and an A/G ratio. Both males and females had significantly reduced Cl levels at 200 mg/kg, and females (200 mg/kg) and males (100 and 200 mg/kg) had increased total protein and albumin levels.

Rats administered 100 mg/kg/day tetrachlorophenol were found to have statistically significant elevations in liver weights (net and relative) in both males and females. In females, both absolute and relative kidney weights were also elevated. Centrilobular hypertrophy in livers was seen (with lower incidence than in the 200 mg/kg dosage group) in 12 males and 1 female. Based on the results discussed above, the 25 mg/kg/day dosage represents the NOAEL and the 100 mg/kg/day is the LOAEL for 2,3,4,6-tetrachlorophenol in this oral subchronic study.

A reproductive study (Schwetz et al., 1974) and a 55-day oral gavage study (Hattula et al., 1981) provided a NOEL of 10 mg/kg/day in rats; however, inadequate study designs (few animals per group) and impurities associated with the commercial grade tetrachlorophenol used in these studies raised some concerns for the validity of the database to derive an RfD. These concerns prompted the Office of Solid Waste to sponsor a 90-day oral study (U.S. EPA,

from Oral Exposure

- Summary of Risk Estimates
- Dose-Response Data
- Additional Comments
- Discussion of Confidence

Quantitative Estimate of Carcinogenic Risk from Inhalation Exposure

- Summary of Risk Estimates
- Dose-Response Data
- Additional Comments
- Discussion of Confidence

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- Bibliography
- Revision History
- Synonyms