

US EPA ARCHIVE DOCUMENT

Reviewer: Masih Hashim

Date: 11-10-07

Risk Manager (EPA): 23

TYPE OF STUDY: Acute Inhalation Study in Rats (OPPTS 870.1300, OECD 403)

TEST MATERIAL: GF-1847 (4.2 wt % [44g/L Pyroxsulam, 8.7 wt % [91g/L] cloquintocet mexyl), a liquid with light brown color

CITATION: Krieger, S., and Radke, B. (2007). GF-1847: Acute Liquid Aerosol Inhalation Study in F344/DUCRL Rats. Toxicology and Environmental Research and Consulting, Dow Chemical Co., Midland, MI 48674. Study Project No. 071001, dated 4-18-2007. MRID 47237001.

SPONSOR: Dow AgroSciences, Indianapolis, IN 46268.

EXECUTIVE SUMMARY The LC₅₀ of GF-1847 was determined in an acute inhalation study (MRID 47237001) in Fischer 344 rats (limit test). Five rats/sex (age 12 weeks, wt - males 245-270 g, females 146-170 g, source-Charles River Labs, Kingston, NY) received a single nose-only inhalation exposure to the liquid aerosol of the test material at a the highest (attainable) gravimetric concentration of 1.1 mg/L for 4 hours (nominal concentration being 1.36 mg/L). The MMAD was 3.39 μ (GSD 1.71). The test material was mixed with (compressed) filtered air in the spray nozzle to generate aerosol. Particle size was determined by multi stage cascade impactor. Animals were observed for behavioral changes and signs of toxicity for a subsequent period of two weeks. Weekly body weights and necropsy findings were recorded.

LC₅₀ Males >1.1 mg/L (Gravimetric)

LC₅₀ Females >1.1 mg/L

LC₅₀ combined >1.1 mg/L

All animals survived the test. The post exposure effects were noisy and/or labored respiration in the animals. There was perioral and perineal soiling. All rats appeared normal by day 3. There was a mean body weight loss of 4.9% and 4.3% in male and female rats on day 2, respectively. Animals gained back to pre-exposure weight by day 8. No other clinical signs were evident. There were no lesions at necropsy.

This acute inhalation study is Acceptable. It does satisfy the guideline requirements of an acute inhalation (OPPTS 870.1300; OECD 403) in the rat. The formulation is in EPA Toxicity Category III for inhalation study in rats.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

RESULTS and DISCUSSION:

Table 1. Mortality / Total No. of Animals

Concentration mg/L	MMAD μ	GSD	Mortality/Number Tested		
			male	female	total
Av. 1.1	3.6*	1.87**	0 / 5	0 / 5	0 / 10

*mean of 2 samples was 3.39

** mean 1.71

Test Atmosphere / Chamber Description:

Gravimetric Conc.	1.1
Chamber size	4.2 L
air flow mean	30 Lpm
Chamber tube Temperature:	20.5 ⁰ C (SD 0. 3 ⁰)
Relative humidity:	35.1% (SD 0.7%)

Particle size determination was made by a multi stage cascade impactor

A. Mortality - There was no mortality on the study.

B. Clinical observations: All animals survived the test. The post exposure effects were noisy and/or labored respiration in rats. There was perioral and perineal soiling. All rats appeared normal by day 3. There was mean body weight loss of 4.9% and 4.3% in male and female rats, respectively, gaining back to normal in 8 days. No other clinical signs were evident.

C. Necropsy - There were no lesions at necropsy.

D. Reviewer's Conclusion: The test substance has LC₅₀ >1.1 mg/L in rats. The formulation is classified in EPA Toxicity Category III.