United States
Environmental Protection Agency

Office of Chemical Safety and
Pollution Prevention

Final Risk Evaluation for 1-Bromopropane (*n*-Propyl Bromide)

Systematic Review Supplemental File:

Data Extraction Tables for Environmental Fate and Transport Studies

CASRN: 106-94-5

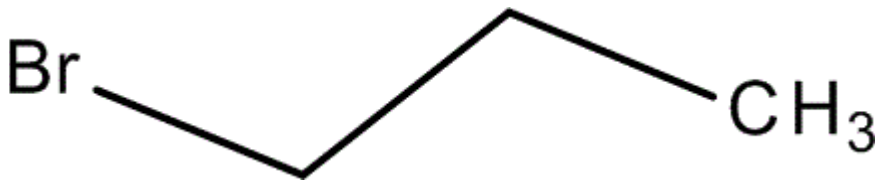

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Table 1. Biodegradation Study Summary for 1-Bromopropane

Study Type (year)	Initial Concentration	Inoculum Source	(An)aerobic Status	Duration	Result	Comments	HERO ID	Data Quality Rating
Water								
Other; Acinetobacter sp. Strain GJ70 is isolated from activated sludge and its ability to degrade bromopropane by releasing Br- is demonstrated.	2 mM	activated sludge, industrial (adaptation not specified)	aerobic	6 days	Initial concentration of bromopropane was 2 mM. Final concentration was <0.0005 mM after 6 days in this pure culture study.		2228540	High
Other; Dehalogenation of hydrophobic bromoalkanes by two Pseudomonas strains	Not reported	Other; pure culture study	aerobic	4-6 hours	Growth of Pseudomonas bacterial strains ES-1 and ES-2 with corresponding Br- release reported.		4140374	High
OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)); MITI tests results compared to CATABOL biodegradability prediction model	Not reported	activated sludge, non-adapted	aerobic	28 days	70% in 28 days based on biochemical oxygen demand (BOD). The CATABOL prediction was 21% in 28 days.		2990985	Medium
Other; this study is a review focusing on the dehalogenation of brominated aliphatic compounds by bacteria containing dehalogenase enzymes. 1-bromopropane is included and shown to be degraded by strain ES-2. No methodology for the new data is presented.	Not reported	Other: bacteria containing dehalogenase enzymes	Not reported	Not reported	The data from this study is presented with detailed methodology in Shochat E et al. 1993. "Bromoalkane-Degrading Pseudomonas Strains" (HERO ID: 4140374)	This study is a review article with limited details reported.	1737896	Low

Table 2. Photolysis Study Summary for 1-Bromopropane

Study Type (year)	Wavelength Range	Duration	Result	Comments	HERO ID	Data Quality Rating
Air						
Other; photolysis study of degradant of 1-bromopropane	308 and 351 nm (laser); 300 to 400 nm (fluorescent black lamps)	Not applicable	Lifetime for direct photolysis of analogue; Bromoacetone atmospheric photolysis lifetime is approximately hours at mid-latitudes in daytime		1733974	High

Table 3. Hydrolysis Study Summary for 1-Bromopropane

Study Type (year)	pH	Temperature	Duration	Results	Comments	HERO ID	Data Quality Rating
Other; review paper, includes calculation	7	298 K	Not reported	Hydrolysis half-life = 26 days [calculated directly from calculated kh, t(1/2) = 0.693/kh]		9848	Medium