



BIODEGRADATION OF DIMETHYL AMIDES

Applicable to these current Stepan products:

NINOL® CAA HALLCOMID M-10	STEPOSOL® M-10 HALLCOMID M-8-10	STEPOSOL® M-8-10
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Biodegradation Information:

Aliphatic amides are generally known to readily undergo biodegradation; first to carboxylic acids, followed by further microcosm-induced breakdown.

Potential for ultimate biodegradation in water was evaluated for Hallcomid M-8-10 using OECD test method 301B (CO₂ Evolution Test). Based on the CO₂ analysis from this study, Hallcomid M-8-10 is considered readily biodegradable at 63.6% in 28 days (reaching 60% or more CO₂ evaluation within a 10-day window of reaching 10% biodegradation).

Also, well-conducted studies performed with C¹⁴ labeled N, N-dimethyldecanamide indicate that this material rapidly biodegrades in soil (Flueckiger, 1995; Wyss-Benz and Tschech, 1995). The rates of degradation of 50% and 90% of the material in different types of soil ranged from 0.5 to 6.5 hours, and 0.65 to 7.5 days, respectively. Since N, N-dimethyloctanamide is closely related in structure and chemical physical properties to N, N-dimethyldecanamide, this material is also expected to rapidly degrade in soil.

References:

*EPA HPV Chemical Challenge Program. Test Plan for Dimethyloctanamide and Dimethyldecanamide category, August, 2003. Hallcomid® is a registered trademark of Stepan Company.

*Stepan Study No. 08-007A

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