UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

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MEMORANDUM

SUBJECT: Piperonyl butoxide: Transmittal of Data Evaluation Records for Environmental Fate Studies

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The Environmental Fate and Effects Division (EFED) has conducted a review of environmental fate studies for piperonyl butoxide (PBO). **Tables 1** summarizes EFED's classification for each MRID by OCSPP Guideline.

Table 1: Classification status of USEPA OCSPP Fate, Transport and Transformation Test Guideline Studies: Piperonyl butoxide

OCSPP Guideline	MRID	Comments	OPPIN Classification
835.4100 Aerobic Soil Metabolism	49091702	This study is classified as supplemental, but is not upgradeable. The sample flasks were not sealed and volatiles were not trapped. By day 28 on all three soils, overall recoveries were less than 90% and declined steadily over time to <70% of the applied.	Supplemental, but not upgradable
Non-Guideline Review of Aerobic Soil Metabolism Studies	49103002	Information contained in this non-guideline review was used to support the supplemental classification decision for the Aerobic Soil Metabolism study (MRID 40901702). In particular, this MRID contains a Foreign Soil Acceptability analysis conducted pursuant to the EPA's Revised Guidance for Determining the Acceptability of Environmental Fate Studies Conducted with Foreign Soils (USEPA, 2011). This MRID also states that volatile radioactivity was identified as radiolabeled carbon dioxide ($^{14}CO_2$) in the EPA-accepted metabolic pathway study (MRID 43806401). The Piperonyl Butoxide Task Force II claims that this accounts for the total remaining non-volatile material measured at 120 days.	Supplemental/ Non-Guideline Information
835.4300 Aerobic Aquatic Metabolism	49091701	This study is classified as supplemental, but is not upgradeable. Information provided by the study author was insufficient to determine whether study conditions were oxic or suboxic. Significant levels (≥10% of the applied) of unextracted residues were detected in the sediments, and the study author failed to use solvents with a range of dielectric constants (including a nonpolar solvent) to maximize extraction of the residues. Pesticide use history at the water/sediment source sites was not reported, and it was not confirmed that the water and sediment were pesticide-free prior to use. The Limits of Detection and Quantitation were not reported.	Supplemental, but not upgradable
Non-Guideline Review of Aerobic Aquatic Metabolism Studies	49103001	Information contained in this MRID was used to support the supplemental classification decision for MRID 49091701, Aerobic Aquatic Metabolism.	Supplemental/ Non-Guideline Information

OCSPP Guideline	MRID	Comments	OPPIN Classification
835.4400 Anaerobic Aquatic Metabolism	49751301	This study is classified as supplemental, but is not upgradeable. The pesticide use history of the source sites was not reported, and it was not demonstrated that the soils were pesticide-free prior to use. CO_2 and organic volatile compounds were not quantified separately.	Supplemental, but not upgradable