

Meeting Summary

EPA/MAATF Organic Arsenical Herbicides SAB Follow-Up Meeting

December 19, 2005, 2:00 PM to 3:30 PM

Room 650, 1801 S. Bell Street, Arlington, VA 22202

Participants

MAATF: Barbara Beck (Gradient), Jennifer Saxe (Gradient), John DeSesso (Mitretek Systems), Susan Youngren (Bergeson & Campbell, P.C.), Lynn Bergeson (Bergeson & Campbell, P.C.), Jim Armbruster (PBI/Gordon), Roger Jackson (KMG-Bernuth, Inc.), Michal Eldan (Luxembourg-Pamol, Inc.)

EPA: Dirk Helder (SRRD), Margaret Rice (SRRD), Bill Smith (HED), Diana Locke (HED), Keara Moore (EFED), Mark Corbin (EFED), Daniel Rieder (EFED), Gautam Srinivasan (OGC), Anna Lowit (HED), Lance Wormell (SRRD)

Summary

On Monday December 19, 2005, EPA's Special Review and Reregistration Division (SRRD), Office of General Counsel (OGC), Environmental Fate and Effects Division (EFED), and Health Effects Division (HED) met with representatives from the Monomethyl Arsonic Acid Research Task Force (MAATF) regarding the organic arsenical herbicides cacodylic acid, MSMA, DSMA, and CAMA. The meeting was requested by the MAATF following the September 2005 Scientific Advisory Board (SAB) meeting on arsenic. Discussions focused on environmental fate; exposure (environmental and dietary, occupational, and residential); endpoint selection; and Food Quality Protection Act (FQPA) safety factors. Cacodylic acid is used as a defoliant in cotton and for lawn renovation. MSMA and DSMA are used for weed control mainly in cotton and ornamental/residential turf. CAMA is used in residential turf.

Environmental fate: MAATF presented an approach for surface water modeling, an interpretation of data indicating that sorption of arsenic compounds to soil restricts migration to groundwater, and Gradient's interpretation of data indicating that limited transformation of organoarsenic herbicides to inorganic arsenic occurs in soil.

Environmental and dietary, occupational, and residential exposure: MAATF presented an approach on how to quantify total environmental exposures to MAA (i.e., MSMA, DSMA, CAMA) and cacodylic acid: Use urinary levels of MAA and cacodylic acid from published studies to estimate worst case exposures. MAATF presented estimated dietary exposure results based on proposed endpoints and exposure data. MAATF presented an approach on how to assess occupational and residential exposure based on the work of the Outdoor Residential Exposure Task Force: Use the turf transferable residue (TTR) study from MSMA assuming 15 minutes of exposure.

Endpoint selection: MAATF presented an approach on endpoints based on select MAA and cacodylic acid studies that indicate only a small amount of MAA is metabolized to cacodylic acid in humans.

FQPA safety factors: MAATF presented an approach on FQPA safety factors for MAA and cacodylic acid. The MAATF approach reduced the FQPA safety factor for MAA to 1x based on Dr. DeSesso's interpretation that there is no evidence of increased susceptibility in early life exposures and that there is no reliable evidence of neurotoxicity. The MAATF approach reduced the FQPA safety factor for cacodylic acid to 1x based on MAATF's interpretation that there is no evidence of increased susceptibility in early life exposures and that there are no clinical signs consistent with neurotoxicity.

Next steps

MAATF: Provide EPA with data used in dietary calculations.

EPA: Provide MAATF with preliminary risk assessments for error-only comment in early 2006.