

PALADIN[®] – DIMETHYL DISULFIDE AS A REPLACEMENT SOIL FUMIGANT FOR METHYL BROMIDE

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Arkema anticipates the introduction of dimethyl disulfide (DMDS) as a new active soil fumigant under the trade name Paladin[®]. We are currently seeking registration for this new product. Together with United Phosphorus (UPI), we are executing an Experimental Use Permit program through the United States Environmental Protection Agency (U.S. EPA) to demonstrate efficacy in farm trials. The new fumigant is not yet registered with U.S. EPA for use by the general public and may only be used under the terms of the EUP by its authorized participants. Parallel programs are underway in Europe, Argentina, Morocco, Turkey, Mexico and Israel.

DMDS is produced biogenically in wetlands and oceans, and plays a role in the global sulfur cycle. It is also produced by certain plants, including members of *Allium* and *Brassica*, where it has been postulated to play a natural defensive role in response to damage. Measurable levels of biogenic DMDS are found in a variety of crops and foods.

Paladin is a novel pre-plant soil fumigant for the treatment of weeds, soil-borne plant pathogens and nematodes. Arkema, through its exclusive distributor, UPI, is evaluating the new fumigant alone and in combination with chloropicrin for efficacy and marketable yield in direct comparison to methyl bromide in the EUP Program. Arkema believes that Paladin will become an attractive substitute for Methyl Bromide in appropriate applications.

DMDS is used today as an industrial chemical. The key industrial uses are 1) the activation of refinery hydrotreating catalysts; 2) as a sulfur donor used to prevent coke formation in the petrochemical industry; and 3) as a corrosion inhibitor in certain iron production processes. DMDS is also a registered food additive (flavorant) in the US and Europe. Arkema is the world's largest manufacturer of DMDS.

PALADIN SOIL FUMIGANT IS FOR EXPERIMENTAL USE ONLY: Sale of this product is prohibited absent registration with the U.S. EPA for use by the general public. This information is not intended to induce the sale of this product.