

DIMETHYL DISULFIDE (DMDS)
A METHYL-BROMIDE REPLACEMENT CANDIDATE

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Dimethyl Disulfide (DMDS) has a long history of use as an industrial chemical. DMDS is used as a sulfur donor in the petrochemical industry as coke inhibitor. DMDS also has industrial use as a sulfiding agent for catalysts in refineries.

DMDS has an atmospheric half-life predicted to be on the order of several hours and is considered to have no ozone depleting potential.

FDA has registered DMDS as a food additive.

DMDS is naturally occurring in the environment. It is found in water, air and soil. Biological sources of DMDS include plants, animals, bacteria, algae, and fungi.

Cerexagri, Inc., part of Arkema, has been developing DMDS for soil fumigation. Studies have been conducted under laboratory conditions and in field's trials in order to evaluate DMDS behavior and effectiveness as a soil fumigant.

For effective control of nematodes, soil pathogens and weeds, dosage rates have ranged from 150 pounds to 600 pounds of product per treated acre.

DMDS has been applied using shank injection and also drip injection. For shank application, pure product has been applied. In drip applications, an EC formulation of 95% has been evaluated. DMDS has also been evaluated in various ratios of DMDS and chloropicrin.

Numerous film barriers have been evaluated for their influence on pest control and their effect on the DMDS dosage required.

DMDS has demonstrated effective control of several soil pathogens including Rhizoctonia, Verticillium and Fusarium.

DMDS has shown effective control of Root-knot, Dagger, Stunt and Lesion nematodes.

DMDS has effectively controlled numerous weedy plants including Nutsedge.

Excellent crop safety has been demonstrated with all rates of DMDS.