VIKANE GAS FUMIGANT QUARANTINE TREATMENTS
PRESENT STATUS & FUTURE POTENTIAL

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Vikane* gas fumigant (sulfuryl fluoride) has been used since the early 1960's primarily as a non-food structural fumigant to control drywood termites (Kalotermitidae) and other wood infesting insects in the United States. Vikane has proven to be an ideal non-food structural fumigant due to its low boiling point, excellent penetration qualities, low reactivity potential and rapid aeration.

Sulfuryl fluoride is also approved by USDA-APHIS and AQIS as a quarantine treatment for beetles and termites in wood products. In addition, USDA-APHIS has authorized a quarantine treatment schedule for ticks. The low reactivity potential of sulfuryl fluoride often makes it the fumigant of choice for non-food objects in shipping containers that may be damaged by other fumigants.

The list of pests for which sulfuryl fluoride is an approved quarantine fumigant is not long, but is being expanded where the need for alternative quarantine treatments has been identified. Efficacy research trials are being conducted by USDA to determine the sulfuryl fluoride quarantine dosage for the Asian Long Horned Beetle (*Anoplophora glabripennis*). Also, Dow AgroSciences is cooperating with the Japanese fumigation industry and government quarantine officials in Japan to assess the potential for sulfuryl fluoride alone, or in combination with other fumigants, to control log infesting beetles under their specific fumigation conditions.

The future potential of sulfuryl fluoride in quarantine treatments depends on several factors. Residue tolerances or exemptions will have to be established for sulfuryl fluoride to be used for food commodity fumigation. The potential for phytotoxicity may limit the use of sulfuryl fluoride on fresh fruit when egg-effective dosages are required. The most important factor in determining the scope of sulfuryl fluoride use as a quarantine treatment, however, is whether a fumigant alternative to methyl bromide is perceived to be needed. Quarantine treatment schedules for sulfuryl fluoride will only be established as critical needs are identified.

Dow AgroSciences is continuing to develop sulfuryl fluoride as a post-harvest fumigant for stored-product pest control and is building a technical foundation to support the use of sulfuryl fluoride against a wide range of insect pests in a variety of fumigation conditions. This technical foundation of efficacy data, optimized fumigation practices, and residue tolerances will facilitate the development of efficient sulfuryl fluoride treatments whenever the need for an alternative quarantine fumigant is identified.