



# Beating the Bugs

*Dr Tim Moss and Dr Daniel Sheard of Brookes Bell Jarrett Kirman are regularly instructed in cases involving insect infestation and the fumigation of cargo. The article examines how fumigants should be safely and effectively used to avoid potential legal problems. It concludes by explaining the proliferation of resistant strains of insects.*

Damage to grain by insects is encountered in every grain-producing country. To reduce this damage pesticides must be deployed to control the insect population. Fumigants are pesticides administered in gaseous form. They have established themselves as an effective and flexible tool in this process. Compared to other formulations, fumigants have a distinct advantage in that they may be effectively applied to large bulks of stored grain. The gas can permeate commodities that other formulations cannot, and this is ideal for use in cargo holds. The most widely used fumigant on ships is phosphine. This is administered by placing solid preparations containing aluminium or

magnesium phosphide on or beneath the cargo surface, which react with atmospheric moisture to produce phosphine.

#### SAFE FUMIGATION

The IMO publication “Recommendations on the Safe Use of Pesticides in Ships” (forming part of the supplement to the IMDG Code (2000 Edition)) outlines provisions essential for safe fumigation. Every master that is due to load a cargo to be fumigated must be completely familiar with the current edition of this document. In this section of the article some of the more important provisions of the IMO Recommendations shall be examined.

#### *i) Fumigation continued in Transit*

If fumigation is to be conducted entirely in port or anchorage, then the IMO Recommendations state that the vessel must be vacated by the crew. However, if fumigation is to be continued in transit, it is a fundamental requirement that this can only be conducted at the discretion of the master. If the decision is taken to continue fumigation in transit, then at least one officer and one other crew member should be trained by the fumigator-in-charge. These trained representatives are responsible for monitoring the fumigant and maintaining safety for the duration of the fumigation at sea. Also, suitable respiratory protection and gas detection equipment must be on board and the crew should be aware of relevant first-aid procedures.