

MeI/HFC-245fa AZEOTROPE: A DROP-IN REPLACEMENT FOR MeBr

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Methyl iodide and 1,1,1,3,3-pentafluoropropane (245fa) form an azeotropic mixture that mimics the physical properties of methyl bromide. The hydrofluorocarbon, HFC-245fa, is a nonflammable and non-toxic compound with an ozone depletion potential of zero. When mixed with methyl iodide it forms an azeotrope that boils between 12.5°C and 14.5°C depending upon the composition of the blend.

The azeotrope has a rather broad range of compositions and still remains a gas at room temperature. Its physical properties solve all the problems attributed to the high viscosity of methyl iodide and methyl iodide/ chloropicrin blends. The azeotrope is easily pumped through piping designed for methyl bromide thus eliminating pooled deposits of chemicals, clogged tubing and it is easily purged from the system.

The presence of methyl iodide in the blend gives it the same efficacy and spectrum of activity as methyl bromide. The inert component of the azeotrope, 1,1,1,3,3-pentafluoropropane reduces worker exposure to toxic materials. The MeI/245fa azeotrope also offers advantages in drip fumigation which will be presented. The efficacy of methyl iodide for wood fumigation has been recognized and approved in Japan. The use of this azeotrope for pallet fumigation and post-harvest pest disinfestations will also be presented.