

MILESTONE HERBICIDE FOR GRAPEVINES

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Milestone represents a new family of herbicides to be used in grapevines in Australia. The common name for Milestone is azafenidin. It is a highly effective grape herbicide characterized by low-use rates. Toxicology studies show the herbicide has low acute oral and dermal toxicity. Breakdown of Milestone in the environment occurs primarily by way of microbial degradation. Hydrolysis appears to play only a minor role in degradation of this herbicide. The compound has a low water solubility of 18 ppm, and the octanol-water partition coefficient for azafenidin is $\text{Log } p = 2.7$. The vapor pressure at 20°C is $>2.7 \times 10^{41}$ Torr. With these attributes, azafenidin has low mobility and leaching potential. Grapevines have shown excellent tolerance to Milestone when used for pre-emergence weed control. Pre-emergence applications of Milestone have resulted in control of most annual broadleaf and grass species present in Australian grapevine areas.