

Update on SODIUM AZIDE-BASED PESTICIDES

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Abstract

Sodium azide (NaN_3) as an active ingredient in pesticide formulations has proven to be a highly effective broad spectrum pesticidal agent. It has successfully been tried as a nematocide, herbicide, fungicide and bactericide. When properly formulated and applied it is safe, clean and cost effective as well as being environmentally friendly. In the past other uses for sodium azide have been as a pharmaceutical by itself and as an ingredient in airbag gas generant systems, today the most common uses are as pharmaceutical intermediates, preservatives and pesticides.

The earliest reports of using azides (N_3) in pesticides are in the early 1900s. In the 1970s, four azide-based pesticides were registered with limited use. More recently American Pacific and Auburn University developed three new formulations. A liquid formulation with 20% ai designed to be applied utilizing drip systems. It has proven to control a wide array of soil-borne pathogens in both food and non-food crops. The original intent was as a Methyl Bromide alternative though it has proven to much more than just a MB alternative.

The first submission to the US EPA for registration was made in April of 2004. Plans are in place for additional registrations including foreign registrations. Ampac also has plans for expansion of the original registration to include other formulations and uses. In June of 2006 Ampac and Gowan Co. of Yuma Arizona signed agreements to jointly develop and market the azide-based pesticide technologies.

Key Words

Sodium Azide, nematocide, herbicide, fungicide, bactericide, Methyl Bromide Alternative