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AFATL-TN-70-1

**MILITARY HERBICIDES
and INSECTICIDES**

by

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TECHNICAL NOTES AFATL-TN-70-1

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NON-EXPLOSIVE MUNITIONS DIVISION

AIR FORCE ARMAMENT LABORATORY

AIR FORCE SYSTEMS COMMAND • UNITED STATES AIR FORCE

EGLIN AIR FORCE BASE, FLORIDA

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DEFOLIANT BLUE

Chemical Composition

Blue is a mixture of the herbicides dimethylarsinic acid (cacodylic acid) and sodium cacodylate.

Origin

Ansul Company has been the major producer of Blue; however, the Chapman Chemical Company, Diamond Shamrock Corporation, and Vineland Chemical Company also produce the Blue formulation.

Type

Blue is a rapid-acting desiccant or contact herbicide that causes browning and dehydration of treated portions of plants.

Properties and Formulations

Blue is a clear yellowish-tan liquid that is soluble in water but insoluble in organic solvents or diesel fuels. It has a mp of -22 F and is nonflammable. The specific gravity of Blue is 1.324 at 25 C, and it has a viscosity of 27 centipoises at 50 F and 10 centipoises at 95 F. It is corrosive to zinc and mild steel and considered mildly corrosive to aluminum. Copper, brass, and tin are not affected by Blue.

Blue is formulated to contain 3.9% dimethylarsinic acid, 22.6% sodium cacodylate, 0.5% antifoam agent, 73.0% inert ingredient (NaCl) and 5.0% surfactant. It contains 2.48 lb ai/gal with an arsenic content of 12.7%. The weight of Blue per gal is 10.9 lb.

Toxicology

The acute oral LD₅₀ of Blue for white rats is 2,600 mg/kg. Dairy cattle fed Blue for 60 days at the rate of 24.5 mg/kg gave no residue of arsenic in the milk and no storage of arsenic on a cumulative basis.

Rates

When Blue is applied at the rate of 3 gal/A to broadleaf herbaceous, woody or grass vegetation, it is an effective, rapid defoliant. For control of most grass species Blue can be applied at the rate of 1 gal/A.

Application

When Blue is applied at lower rates it should be diluted with water. Applications of Blue should not be made during or following precipitation.