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# PESTICIDE USE IN ALASKA 1978

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TABLE OF CONTENTS

	Page
Acknowledgments .....	iv
Introduction .....	1
References .....	2
Pesticide Use in Alaska, 1978 .....	3

"Circular" (University of Alaska, Fairbanks,  
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## INTRODUCTION

There is little information on the kinds and amounts of pesticides currently used in the State of Alaska. A study conducted by Saunders in 1966 estimates usage for that period. Since that time many pesticides have been banned and new materials have replaced them. Alaska has been asked by the United States Department of Agriculture to cooperate with the other states in a pesticide impact assessment program to aid the Environmental Protection Agency in predicting the consequences of its actions.

It is important that the pesticides presently being used in Alaska be identified and their relative importance determined. This survey was conducted in 1979 to determine the kinds and amounts of pesticides used in Alaska during calendar year 1978. All distributors in Alaska believed to dispense pesticides in significant amounts were surveyed initially by mail. Twenty-five distributors were identified. Of these, 76% responded; the remaining 24% provided no information and follow-up contacts through personal interviews proved to be little value. Information requested included the trade or chemical name of each pesticide sold in Alaska, its manufacturer, and the quantity distributed within the state.

One-hundred-sixty pesticide users were contacted. Of these, 69% responded, 28% did not reply, and 3% were returned undelivered. Users were asked the trade or chemical name of each pesticide used, the quantity applied, and the supplier of the material.

If a user obtained pesticide products from distributors in the lower forty-eight states, those amounts were added to the distributors for a survey total. The amount of active ingredients (A.I.) for each pesticide product was determined from the literature and was generally reported either as pounds A.I. per gallon or as a percentage by weight. In the case of the latter, the unavailability of information of certain liquid formulations made it necessary to estimate the pounds of active ingredient in a volume of material. This was done by assuming that, on the average, one gallon of a 12% A.I. formulation contains one pound A.I. By dividing other percentages by twelve we obtained estimates of pounds A.I. per gallon of product.

The following data present the kinds and amount of various pesticide products encountered during the survey. It is not, nor could it be, a complete listing of all pesticide products used in Alaska during a given year. It is estimated that this survey represents 75% of the total amount of each product used in the state for calendar year 1978, since the survey includes all organizations and individuals known to use or dispense pesticides in significant amounts.

This compilation of material is not intended to present recommendations for pest-management situations in Alaska, and it should not be used as a pest-control guide. It simply reports surveyed information and should be used as a reference to current pesticide usage. General information is provided on the classification and application of each pesticide to give the reader and user of this report an understanding of the nature of the materials, and thus serve an educational need.

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## PESTICIDE USE IN ALASKA, 1978

**NOTE:** The following example is provided as a guide for the reader in using the information contained in this report:

### Allethrin<sup>1</sup> – Insecticide<sup>2</sup>

Application:<sup>3</sup> For control of flies and mosquitoes in homes.

Quantity:<sup>4</sup> Product – 407 lbs.; A.I. – 1 lb.

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<sup>1</sup> Numerous trade and common names may exist for the same material. The names used for pesticide products in this compilation are common names generally preferred by the U.S. Department of Agriculture.

<sup>2</sup> Pesticides are classified into various groups depending on their use against particular groups of target organisms.

<sup>3</sup> General information is given on the more common uses of the material. Refer to product labels for instructions on safe, proper, and specific use of all pesticides.

<sup>4</sup> The total quantity of products used in Alaska in 1978 is reported in pounds and gallons. The two units are distinct and not interchangeable. The amount of active ingredient (A.I.) is the quantity of actual pesticide chemical in the product and is reported in pounds. Other components of the product formulation are not reported.

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**Acephate** – see Orthene.

**Acti-dione PM** – see Cycloheximide.

**Aldicarb** – see Temik.

**Allethrin** – Insecticide.

Application: For control of flies and mosquitoes in homes.

Quantity: Product – 407 lbs.; A.I. – 1 lb.

**d-trans Allethrin** – Insecticide.

Application: Effective against flying and crawling insects. Used mainly in sprays and aerosols against household insects.

Quantity – Product – 308 gals.; A.I. – 5 lbs.

**Amitrole** – Systemic herbicide.

Application: For the control of annual grasses and broadleaf weeds. May not be used on food crops.

Quantity: Product – 200 lbs.; A.I. – 180 lbs.

**Amizol** – see Amitrole.

**Ammate** – Herbicide.

Application: Used primarily to control woody plant species.

Quantity: Product – 1,614 lbs; 280 gals.; A.I. – 2,513 lbs.

**Ammonium Sulfamate** – see Ammate.

**Atrazine** – Herbicide.

Application: Used for season-long weed control in corn, sorghum, and certain other crops. At highest rates used for nonselective weed control in noncropped areas.

Quantity: Product – 48 lbs.; A.I. – 38 lbs.

**Bacillus Thuringiensis** – Microbial insecticide.

Application: Specific for the control of some lepidopterous larvae with high gut pH, such as spruce budworm, cabbage loopers, imported cabbage worm, etc.

Quantity: Product – 3 lbs., (4,000 international units).

**Balan** – Selective preemergent herbicide.

Application: For control of annual grasses and broadleaf weeds in direct-seeded lettuce, established turf, and clover. Will not control established weeds.

Quantity: Product – 3 gals.; A.I. – 3 lbs.

**Banvel** – Herbicide.

Application: For control of brush under utility lines, along highways and railroads. Also for the control of annual and perennial broadleaf weeds in corn, small grains, rangeland, pastures, turf, and noncropland.

Quantity: Product – 33,472 lbs.; 483 gals.; A.I. – 2,022 lbs.

**Baygon** – Insecticide.

Application: Effective against insects affecting man and animals such as cockroaches, flies, and mosquitoes where rapid knockdown and residual properties are important. Effective against aphids, bugs, and leaf hoppers in agricultural crops.

Quantity: Product – 440 lbs.; 678 gals.; A.I. – 872 lbs.

**Benlate** – see Benomyl.**Benomyl** – Systemic fungicide.

Application: For the control of a wide range of diseases of fruits, nuts, vegetables, field crops, turf, and ornamentals.

Quantity: Product – 133 lbs.; A.I. – 37 lbs.

**Beta-Naphthoxyacetic Acid** – Plant growth regulator.

Application: Blossom set and growth regulator for strawberries and tomatoes.

Quantity: Product – 318 lbs.; A.I. – 1 lb.

**Bioallethrin** – see d-trans Allethrin.**Brimstone** – see Sulfur.**Bromacil** – Herbicide.

Application: For general weed or brush control in noncrop areas; particularly useful against perennial grasses.

Quantity: Product – 3,311 lbs.; 4 gals.; A.I. – 2,657 lbs.

**Brominal** – See Bromoxynil.**Bromoxynil** – Selective herbicide.

Application: For use in cereal crops and grass for postemergent control of weeds.

Quantity: Product – 20 gals.; A.I. – 40 lbs.

**Buctril** – See Bromoxynil.**Butoxyethanol ester** – see 2, 4-D.



**Cacodylic Acid** – Nonselective herbicide.

Application: Used as a silvicide (tree killer) for forestry use and a nonselective herbicide.

Quantity: Product – 192 gals.; A.I. – 166 lbs.

**Caparol** – Selective herbicide.

Application: For the control of most annual grasses and broadleaf weeds in celery. Gives good contact kill of weeds up to 2 inches high.

Quantity: Product – 467 gals.; A.I. – 9 gals.

**Captan** – Fungicide.

Application: Control of wide variety of fungus diseases on small fruits, berries, vegetables, and ornamental crops. Used as seed treatment by slurry, dry treatment, and plant-box application.

Quantity: Product – 2,686 lbs.; A.I. – 74 lbs.

**Carbaryl** – Insecticide.

Application: For the control of insect pests on more than 100 different crops including fruit, forage crops, forests, field crops, lawns, ornamentals, rangeland, and shade trees, as well as poultry and pets.

Quantity: Product – 4,127 lbs.; 305 gals.; A.I. – 1,408 lbs.

**Carboxin** – see Vitavax.**Carzol** – Acaricide, insecticide.

Application: Effective for control of mites, thrips, lygus bugs, leaf hoppers and stink bugs. Registered for use on various fruits and alfalfa.

Quantity: Product – 200 lbs.; A.I. – 4 lbs.

**Casoron** – Herbicide.

Application: Selective weed control in cranberry bogs, ornamentals, nurseries, fruit orchards, forests, public green areas, and for total weed control in industrial sites, railway lines, etc. Controls aquatic weeds in nonflowing water.

Quantity: Product – 1,305 lbs.; A.I. – 36 lbs.

**Chlordane** – Insecticide.

Application: Used for control of structural pests and for certain agricultural purposes until existing supplies of formulations for crop pests have been exhausted.

Quantity: Product – 285 lbs.; 28 gals.; A.I. – 315 lbs.

**Chloro IPC** – Herbicide.

Application: For control of weeds in snap beans, blueberries, cranberries, carrots, clover, garlic, onions, spinach, tomatoes, gladioli, and woody nursery stock. Also for inhibiting potato sprouting. A pre-emergent herbicide with postemergence activity on several weed species.

Quantity: Product – 45 gals.; A.I. – 180 lbs.

**Chloroxuron** – see Tenoran.**Chlorpyrifos** – Insecticide.

Application: Used as a soil insecticide for control of wireworms, rootworms, and cutworms.

Quantity: Product – 304 gals.; A.I. – 649 lbs.

**Coal Tar** — see Creosote.

**Cobex** — see Dinitramine.

**Contax** — see Cacodylic Acid.

**Copper Oleate** — Fungicide.

Application: Liquid preparation applied to vegetables.

Quantity: Product — 42 lbs.; 35 gals.; A.I. — 27 lbs.

**Copper Sulfate** — Fungicide, algicide.

Application: One of the earliest-used fungicides. Mixed with lime and water, it forms "Bordeaux mixture."

Quantity: Product — 201 lbs.; A.I. — 197 lbs.

**Creosote** — Wood preservative.

Application: A preservative possessing a high toxicity to wood-destroying organisms and a low rate of evaporation.

Quantity: Product — 2,625 gals.

**Cycloheximide** — Fungicide.

Application: Inhibits growth of many plant pathogenic fungi. Effective for control of powdery mildew on roses, other ornamentals, and rusts or leaf spots on lawn grasses.

Quantity: Product — 4 lbs.; A.I. — less than one pound.

**Cyclophosphamide** — see Endoxan.

**Cygon** — see Dimethoate.

**Cythion** — see Malathion.

**2, 4-D** — Selective herbicide.

Application: Registered for use on grasses, wheat, barley, oats, sorghum, corn, sugarcane, and noncrop areas for postemergent control of weeds such as Canada thistle, dandelion, annual mustards, ragweed, and lambsquarter.

Quantity: Product — 79,174 lbs.; 4,473 gals.; A.I. — 13,228 lbs.

**Dacthal** — Selective pre-emergence herbicide.

Application: Effective against certain annual grasses and broadleaf weeds. Tolerated by many crop plants.

Quantity: Product — 3,538 lbs.; A.I. — 219 lbs.

**Dalapon** — Systemic herbicide.

Application: Systemic herbicide effective on perennial and annual grasses.

Quantity: Product — 2 lbs.; A.I. — 2 lbs.

**DDVP** — Insecticide.

Application: Controls household and public health pests, insects in stored products, house flies, gnats, mosquitoes, aphids, spider mites, and white flies. Used in greenhouse crops as well as outdoor fruit and vegetables.

Quantity: Product — 141 lbs.; A.I. — 68 lbs. (DDVP strips, though reported in large quantities, are not included in these figures.)

**DEET** — Insect repellent.

Application: Repellent for mosquitoes, biting flies, chiggers, ticks, fleas, and certain other biting insects. Safe for use on human skin.

Quantity: Insufficient information to determine amount used.

**Diazol** — Insecticide, nematicide.

Application: Control of soil insects, such as cutworms, wireworms, and maggots. Effective against pests of fruits, vegetables, forage, field crops, range, pasture, grasslands, and ornamentals.

Quantity: Product — 10,754 lbs.; 865 gals.; A.I. — 4,109 lbs.

**Dibrom** — see Naled.**Dicamba** — see Banvel.**Dicarboximides** — Group of fungicides including Captan, Folpet, and Captafol.

Application: The dicarboximides are some of the safest pesticides. They are used as seed treatments and as protectants against mildews, late blight, and other plant diseases.

**Dichlobenil** — see Casoron.**Dichlorvos** — see DDVP.**Dicofol** — see Kelthane.**Dimethoate** — Systemic insecticide, acaricide.

Application: A residual wall spray to control house flies. Also used on a wide range of insects and mites on food crops and ornamentals.

Quantity: Product — less than one gallon.

**Dimethyl Arsinic Acid** — see Cacodylic Acid.**Dinitramine** — Selective pre-emergence herbicide.

Application: Control of annual grasses and broadleaf weeds as they germinate in certain crops.

Quantity: Product — 20 gals.; A.I. — 40 gals.

**Dinitro** — see Dinoseb.**Dinocap** — Fungicide, acaricide.

Application: Used on various fruit, vegetable crops, and ornamentals for control of powdery mildew diseases and certain species of mites.

Quantity: Product — 21 lbs.; A.I. — 9 lbs.

**Dinoseb** — Preemergent and contact herbicide, desiccant.

Application: Applied to kill germinating seeds contained in the upper soil surface layers in pre-emergence treatments and also in early postemergence and directed sprays in numerous crops.

Quantity: Product — 1,255 gals.; A.I. — 3,844 lbs.

**Diphacin** — Anticoagulant rodenticide.

Application: For control of rats, mice, and certain other rodents, applied in bait form.

Quantity: Product — 100 lbs.; A.I. — 2 lbs.

**Diquat** — Contact herbicide, desiccant.

Application: Used for desiccation of seed crops and aquatic weed control. Strongly absorbed and inactivated by soil particles.

Quantity: Product — 283 lbs., A.I. — 100 lbs.

**Disulfoton** — Systemic insecticide, acaricide.

Application: Controls many species of insects and mites. Seed treatment is particularly effective against sucking insects.

Quantity: Product — 3,604 lbs., 70 gals.; A.I. — 73 lbs.

**Di-Syston** — see Disulfoton.**Dithane M-45** — see Fore.**Diuron** — Herbicide.

Application: At low rates is used as a selective herbicide for control of germinating broad-leaf and grass weeds in numerous crops. At higher application rates, it is used as a general weed killer.

Quantity: Product — 1,054 lbs.; A.I. — 13 lbs.

**DNBP** — see Dinoseb.**Dodecyl AMA** — Herbicide.

Application: Postemergent herbicide for use in turf and noncrop areas.

Quantity: Product — 2 gals.; A.I. — less than one pound.

**Dursban** — see Chlorpyrifos.**Dylox** — Insecticide.

Application: Effective for the control of many different species of insects. Registered for use on a wide variety of field crops, vegetables, seed crops, and ornamentals.

Quantity: Product — 29 gals.; A.I. — 44 lbs.

**Endosulfan** — Insecticide, acaricide.

Application: Controls aphids, thrips, beetles, foliar feeding larvae, mites, borers, cutworm, bugs, white flies, leaf hoppers, and slugs on deciduous, small fruits, vegetables, forage crops, oil crops, fibre crops, grains, forest, and ornamentals.

Quantity: Product — 25 gals.; A.I. — 76 lbs.

**Endoxan** — Insecticide.

Quantity: Product — 12 lbs.; A.I. — less than one pound.

**Enstar** — Insect growth regulator.

Application: For control of white flies and aphids on ornamental plants and vegetable seed crops in greenhouses.

Quantity: Product — less than a gal.; A.I. — 4 lbs. per gal.

**Eptam** — Selective herbicide.

Application: For control of grassy and broadleaf weeds.

Quantity: Product — 10 gals.; A.I. — 72 lbs.

**EPTC** — see Eptam.**Erbon** — Nonselective herbicide.

Application: A residual sterilant for about one season. Lack of lateral movement from treated sites is a major advantage.

Quantity: Product — 363 gals.; A.I. — 135 lbs.

**Esteron** — see 2, 4, 5-T.**Ferrous Sulfate** — Wood preservative, herbicide, fertilizer.

Application: Corrects chlorosis from iron deficiency. Ferrous sulfate is selective against broadleaf weeds and is cleared for use on cranberries.

Quantity: Product — 168 gals.; A.I. — 504 lbs.

**Ficam** — Residual insecticide.

Application: For the control of cockroaches, crickets, carpet beetles, earwigs, ants, silverfish, wasps, fleas, brown dog ticks, and bedbugs in food stores, houses, and other buildings by professional applicators.

Quantity: Product — 35 lbs.; 43 gals.; A.I. — 39 lbs.

**Folpet** — Fungicide.

Application: Used on fruits, berries, vegetables, flowers, and ornamentals for control of scab, spots, and mildews. Used for seed and plant-bed treatment.

Quantity: Product — 2,328 lbs.; A.I. — 147 lbs.

**Fore** — Fungicide.

Application: A broad-spectrum fungicide for use on turf. It is also effective in the control of a variety of diseases of flowers and ornamental trees and shrubs.

Quantity: Product — 122 lbs.; A.I. — 97 lbs.

**Formaldehyde** — Fungicide, germicide.

Application: Soil sterilant, cleared for soil pretreatment in mushroom houses.

Quantity: Product — 2 gals.; A.I. — 5.55 gals.

**Formetanate** — see Carzol.**Furloe** — see Chloro-IPC.**Glyphosate** — Nonselective herbicide.

Application: For control of many annual and perennial grasses, broadleaf weeds, and many tree and woody brush species in cropland and many noncrop sites.

Quantity: Product — 361 gals.; A.I. — 1,442 lbs.

**Isotox** — see Metasystox-R.**Karathane** — see Dinocap.

**Kelthane** – Acaricide.

Application: Used on many fruit, vegetable, ornamental, and field crops for control of various species of mites.

Quantity: Product – 2,686 lbs.; 320 gals.; A.I. – 612 gals.

**Kinoprene** – see Enstar.**Korlan** – see Ronnel.**Krenite** – Brush control agent, growth regulator.

Application: For control and/or growth suppression of many woody species. Generally used on noncropland areas such as railroads, pipelines, utility and highway rights of way.

Quantity: Product – 30 gals.; A.I. – 120 lbs.

**Lindane** – Insecticide.

Application: For many uses, of which seed treatments are prominent. Possesses more vapor activity than most of the organochlorine insecticides.

Quantity: Product – 67 lbs.; A.I. – 22 lbs.

**Linuron** – Herbicide.

Application: For selective weed control in corn, carrots, celery, parsnips, potatoes, and wheat. Also used for short-term control of annual weeds in noncrop areas such as roadsides and fence rows.

Quantity: Product – 126 lbs.; A.I. – 63 lbs.

**Lorox** – see Linuron.**Lorsban** – see Chlorpyrifos.**Malathion** – Insecticide.

Application: Controls a wide variety of insects including aphids, spider mites, scale insects, house flies, and mosquitoes as well as a large number of other sucking and chewing insects attacking fruits, vegetables, ornamentals, and stored products.

Quantity: Product – 10,776 lbs.; 1,088 gals.; A.I. – 9,203 lbs.

**Maleic Hydrazide** – Growth retardant.

Application: Controls weeds in turf. In less concentration, controls sprouting of edible onions and potatoes in storage.

Quantity: Product – 55 gals.; A.I. – 164 lbs.

**Maneb** – Fungicide.

Application: Used for control of early and late blight on potatoes and tomatoes as well as other diseases of fruits, vegetables, and field crops. Also used as a turf fungicide.

Quantity: Product – 72 lbs.; A.I. – 51 lbs.

**MCPA** – Systemic herbicide.

Application: A translocated herbicide for use in field crops and noncrop areas for postemergent control of broadleaf weeds.

Quantity: Product – 13 gals.; A.I. – 45 lbs.

**MCPPP** — Systemic herbicide.

Application: For use on turf for selective control of broadleaf weeds and in cereal crops alone in a mixture with such other plant-growth regulators as 2, 4-D.

Quantity: Product — 33,472 lbs.; 424 gals.; A.I. — 472 lbs.

**Mecoprop** — see MCPPP.**Mesurool** — Insecticide.

Application: Provides control of numerous insect species and mites on fruit, field, and vegetable crops. Highly effective in control of garden slugs and snails.

Quantity: Product — 17 lbs.; A.I. — less than one pound.

**Metaldehyde** — Molluscicide.

Application: Apply as a bait to soil surface around vegetable crops in fields or greenhouses.

Quantity: Product — 1,248 lbs.; 6 gals.; A.I. — 50 lbs.

**Metasystox** — Systemic insecticide, acaricide.

Application: Controls aphid vectors of virus diseases, white flies, leaf hoppers, and saw flies.

Quantity: Product — 29 gals.; A.I. — 15 lbs.

**Metasystox-R** — Systemic insecticide, acaricide.

Application: Effective control by contact and systemic action of many destructive pests that attack certain vegetable, fruit, and field crops as well as ornamental flowers, shrubs, and trees.

Quantity: Product — 459 gals.; A.I. — 383 lbs.

**Methoxychlor** — Insecticide.

Application: Widely used because of its long residual action against many species of insects and its low toxicity to humans and warm-blooded animals. For control of certain insect pests on fruit and shade trees, vegetables, dairy and beef cattle, home gardens, and around farm buildings.

Quantity: Product — 370 lbs.; 83 gals.; A.I. — 153 lbs.

**Metribuzin** — Herbicide.

Application: Effective for control of a large number of grassy and broadleaf weeds infesting agricultural crops. Currently registered for use on potatoes and tomatoes. Future registration is anticipated for crops such as wheat.

Quantity: Product — 120 lbs.; 550 gals.; A.I. — 2,284 lbs.

**Mexacarbate** — see Zectran.**MH-30** — see Maleic Hydrazide.**Monuron** — Herbicide.

Application: Soil sterilant and general weed control of noncrop areas.

Quantity: Product — 25 lbs.; A.I. — 20 lbs.

**Naled** — Insecticide, acaricide.

Application: Recommended for use on numerous crops, generally up to four days before harvest or less. Used in poultry houses, kennels and around food-processing plants. Non-systemic, with some short, residual, fumigant action.

Quantity: Product — 764 gals.; A.I. — Insufficient information to determine. Several products contain this pesticide. They range from 1 to 90% A.I.

**Octyl AMA** — Herbicide.

Application: Postemergent herbicide for use in turf and noncrop areas.

Quantity: Product — 2 gals.; A.I. — less than one pound.

**Orthene** — Insecticide.

Application: Effective against many species of insects, registered for use on celery, head lettuce, and beans.

Quantity: Product — 12 lbs.; 131 gals.; A.I. — 140 lbs.

**Orthocide** — see Captan.**Oxydemeton-Methyl** — see Metasystox-R.**Paraquat** — Contact herbicide, desiccant.

Application: For desiccation of seed crops, noncrop and industrial weed control, pasture renovation, and use in notill or before planting or crop emergence.

Quantity: Product — 138 lbs.; 186 gals.; A.I. — 432 lbs.

**Patoran** — Selective herbicide.

Application: Effective for pre-emergence control of annual grasses and broadleaf weeds. Pre-emergent weed control in potatoes.

Quantity: Product — 50 lbs.; A.I. — 25 lbs.

**PCNB** — Soil fungicide.

Application: Fungicide for use on food, fibre, and ornamentals.

Quantity: Product — 14 lbs.; A.I. — 14 lbs.

**PCP** — Contact herbicide, defoliant, wood preservative, molluscicide.

Application: Protects wood products from fungus decay, termite, and Lyctus beetle attack. Applied as a molluscicide to control snail carriers.

Quantity: Product — 1,050 gals.; A.I. — 7,350 lbs.

**Penta** — see PCP.**Pentac** — Acaricide.

Application: Specific miticide effective against the two spotted spider mite.

Quantity: Product — 2 lbs.; A.I. — 1 lb.

**Pentachlorophenol** — see PCP.**Phaltan** — see Folpet.**Phorate** — Insecticide.

Application: Used to control a wide range of insects on a variety of crops.

Quantity: Product — 281 lbs.; A.I. — 3 lbs.

**Picloram** — see Tordon.**Piperonyl Butoxide** — Synergist.

Application: Highly synergistic action on pyrethrins, tetramethrin, rotenone and others when combined with these insecticides.

Quantity: Product — 2,688 lbs., 448 gals.; A.I. — 40 gals.



**Pirimor** — Systemic aphicide.

Application: Selective aphicide effective against organophosphorous-resistant strains.

Quantity: Product — 1 gal.; A.I. — 5 lbs.

**Pramitol** — Nonselective herbicide.

Application: Controls most annual and many perennial broadleaf weeds and grasses, generally for a full season or longer. Adapted to industrial use.

Quantity: Product — 120 lbs.; 13 gals.; A.I. — 421 lbs.

**Premerge** — see Dinoseb.**Princep** — see Simazine.**Prodan** — Insecticide.

Application: Controls cutworms and leafworms.

Quantity: Product — 1,014 lbs.; A.I. — 50 lbs.

**Promar** — see Diphacin.**Prometon** — see Pramitol.**Prometrex** — see Caparol.**Prometryn** — see Caparol.**Propionic Acid** — Fungicide, grain preservative.

Application: Used as an inhibitor for control of molds and fungi in high-moisture, stored grain to be used as livestock feed. Propionates are used as mold inhibitors in bread.

Quantity: Product — 364 gals.; A.I. — 68 lbs.

**Propoxur** — see Baygon.**Pyrenone** — Preparation of pyrethrins and piperonyl butoxide. See Pyrethrin and Piperonyl butoxide.**Pyrethrin** — Biodegradable contact insecticide.

Application: Because of their low toxicity, pyrethrum extracts are used extensively in stock sprays, pet sprays, household sprays and aerosols, and industrial sanitation sprays and to protect stored food in warehouses, etc. Powerful synergists such as piperonyl butoxide or sulfoxide may be necessary to produce a good kill at an economic level.

Quantity: Product — 2,836 lbs.; 706 gals.; A.I. — 216 lbs.

**Pyrethrum** — see Pyrethrin.**Resmethrin** — Insecticide.

Application: Household, greenhouse, and industrial mosquito and insect control.

Quantity: Product — 2,807 lbs.; 203 gals.; A.I. — 6 lbs.

**Ronnel** – Insecticide.

Application: Contact and systemic action controls flies and cockroaches as a residual treatment. Oral administration to livestock controls cattle grub, lice, horn fly, face fly, screw-worm, ticks, sheep ked, and wool maggot.

Quantity: Product – 29 gals.; A.I. – 57 lbs.

**Rotenone** – Selective contact insecticide with some acaricidal properties.

Application: Used as dusts for garden insects, lice, and ticks on animals. Used for eliminating or partially eradicating fish populations in the management of bodies of water to result in improved fishing.

Quantity: Product – 601 lbs., 117 gals.; A.I. – 7 lbs.

**Roundup** – see Glyphosate.**Sencor** – see Metribuzin.**Sevin** – see Carbaryl.**Silvex** – Herbicide.

Application: More effective than 2, 4, 5-T for control of certain woody plants. Effective on many turfs such as chickweed, clover, yarrow, and sparges; also used to control emergent and subemergent aquatic weeds.

Quantity: Product – 936 gals.; A.I. – 3,742 lbs.

**Simazine** – Selective herbicide.

Application: Used for the control of most annual grasses and broadleaf weeds in corn, cranberries, ornamental and nursery stock, and turf-grass sod production. At higher rates it is used for nonselective weed control in industrial areas.

Quantity: Product – 241 lbs.; A.I. – 86 lbs.

**Sinox General** – see Dinoseb.**Sodium Cacodylate** – Nonselective herbicide.

Application: For use in general weed control, sod and turf renovation, edging along walkways and ornamentals.

Quantity: Product – 141 gals.; A.I. – 141 lbs.

**Sodium Chlorate** – Soil sterilant herbicide, defoliant, desiccant.

Application: For control of annual and perennial grasses and broadleaf weeds and to kill trees and shrubs. Kills all plant growth except moss, persists for 3 to 6 months.

Quantity: Product – 1,749 lbs.; A.I. – 537 lbs.

**Sodium Dimethylarsinate** – see Sodium Cacodylate.**Sodium Fluosilicate** – see Prodan.**Sodium Metaborate** – Fire retardant.

Application: Added to sodium chlorate herbicides and defoliants.

Quantity: Product – 1,749 lbs.; A.I. – 1,152 lbs.

**Sodium Pentachlorophenate** — Herbicide.

Application: Applied as aqueous spray or dry granules. Registration for agricultural uses cancelled by EPA.

Quantity: Product — 467 gals.; A.I. — 28 lbs.

**SPB-1382** — see Resmethrin.

**Sprout Nip** — see Chloro-IPC.

**Sulfur** — Fungicide, acaricide, fertilizer.

Application: Effective for control of a variety of plant diseases — apple scab, mildew on roses, powdery mildew, and rusts as well as fleahoppers and mites.

Quantity: Product — 124 lbs.; A.I. — 67 lbs.

**2, 4, 5-T** — Selective herbicide.

Application: Used where woody plants are not adequately controlled by 2, 4-D.

Quantity: Product — 385 gals.; A.I. — 770 lbs.

**Telvar** — see Monuron.

**Temik** — Systemic insecticide, acaricide, and nematicide.

Application: To control certain insects, mites, and nematodes in potatoes and ornamentals. Used only in soil applications.

Quantity: Unknown.

**Tenoran** — Selective herbicide.

Application: Primarily for early postemergence control of annual broadleaf weeds. Registered for use in celery, strawberries, and carrots.

Quantity: Product — 178 lbs.; A.I. — 89 lbs.

**Terraclor** — see PCNB.

**Tetramethrin** — Insecticide.

Application: Has excellent knockdown efficacy for mosquitoes, flies, and other flying insects. Used for controlling garden pests. Use for control of cattle insects and stored product pests is promising.

Quantity: Product — 931 lbs.; 17 gals.; A.I. — 3 lbs.

**Thimet** — see Phorate.

**Thiram** — Fungicide, animal repellent.

Application: As a fungicide used to control certain fungus diseases in fruits, especially russetting in apples. Also used in turf to control brown patch and dollar spot. As a seed protectant, reduces losses from seed decay, damping off, and seedling blights. As repellent protects trees and shrubs from rabbit and deer depredation.

Quantity: Product — 201 lbs.; 100 gals.; A.I. — 227 lbs.

**TOK** — Herbicide.

Application: For broad spectrum weed control in a variety of vegetable crops. Incorporation not recommended.

Quantity: Product — 100 lbs.; A.I. — 50 lbs.

**Tordon** — Systemic herbicide.

Application: For noncrop use in brush control along utility rights of way, weed and brush control in pastures and rangeland, and broadleaf weed control in small grains.

Quantity: Product — 390 gals.; A.I. — 780 lbs.

2, 4, 5-TP — see Silvex.

Tracking Powder — see Valone.

Treflan — see Trifluralin.

**Trifluralin** — Selective preemergent herbicide.

Application: Treflan is used for weed control in numerous crops including wheat and many in the Brassica family.

Quantity: Product — 170 lbs.; 153 gals.; A.I. — 612 lbs.

**Trimec** — Composed of 2, 4-D, MCPP, banvel, herbicide.

Application: To kill hard-to-control weeds in turf and brush on roadsides.

**Truban** — Fungicide.

Application: For the control of Pythium and Phytophthora.

Quantity: Product — 16 lbs.; A.I. — 11 lbs.

**Valone** — Anticoagulant, rodenticide.

Application: Applied in a paper-thin layer to rat and mouse runways.

Quantity: Product — 150 lbs.; A.I. — 15 lbs.

Vapona Bombs — see DDVP.

**Vitavax** — Systemic fungicide.

Application: Seed treatment for control of smuts on barley, oats, and wheat seedling diseases.

Quantity: Product — 100 gals.; A.I. — 136 lbs.

**Warfarin** — Rodenticide.

Application: An anticoagulant that is highly effective in controlling Norway rats and house mice.

Quantity: Product — 575 lbs.; A.I. — 3 lbs.

Weedar 64 — see 2, 4-D.

Weed and Feed — see 2, 4-D.

Weed-B-Gon — see 2, 4-D.

Whitmire SPP 1382 — see Pyrethrum, resmethrin.

**Zectran** – Insecticide, acaricide.

Application: Controls wide range of pests including foliage feeding insects, mites, snails and slugs.

Quantity: Product – 84 lbs.; 3 gals.; A.I. – 7.7 lbs.

**Zinc Chloride** – Wood preservative, herbicide.

Application: A wood preservative to prevent breeding of bark beetle and damage by sawyer beetles, ants, termites, or fungi. Also used in moss control.

Quantity: Product – 36 gals.; A.I. – 180 lbs.

**Zineb** – Fungicide.

Application: Used on a variety of fruits and vegetables, especially potato seed pieces.

Quantity: Product – 373 lbs.; A.I. – 55 lbs.