

# METHOMYL

## Overview

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Methomyl is a highly toxic carbamate insecticide first registered in 1968 by the EPA as a "Restricted use Pesticide (RUP)" and is used on a wide variety of crops (#EPA and #PAN). It is a Cholinesterase Inhibitor and is often most effective against pests that have developed a resistance to Organophosphates (#INCHEM). It dissolves rapidly in water and is not persistent in soil (#EXTOXNET).

## Chemical Description

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Methomyl is white, crystalline solid with a slight sulfurous odor at room temperature with a melting point of around 78-79 Celsius (#EXTOXNET and #EPA). It decomposes slowly in water and the rate is increased with increases in temperature, alkalinity, salinity, and aeration (#EPA).

## Uses

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Methomyl is used on numerous applications. It is estimated that around 2.5-3.5 million pounds of methomyl are used in the United States annually with nearly all lettuce, artichokes, rhubarb, asparagus, okra, and oriental vegetables and around 75% of the pomegranates treated with the insecticide. There is a myriad of crops treated with and insects it is used against and an extensive list highlighting both of these in the #EPA "Reregistration Eligibility Decision for Methomyl."

## Health Effects

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*Main Article: Cholinesterase Inhibitor*

There is not much human data on the toxicity of methomyl and the findings and suppositions are based off dog and rat studies (#EPA). Methomyl is readily absorbed through the skin or the lungs and is not expected to be bioaccumulative or to be a Carcinogen (#EXTOXNET and #PAN). It is highly toxic when absorbed orally and moderately toxic when absorbed dermally and its chronic effects are similar to its acute effects (#EXTOXNET).

## Environmental Effects

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Methomyl has a low persistence in the environment. It is highly soluble in water and has a half life of 14 days in soil (#EXTOXNET). Unfortunately, it is highly toxic to birds, aquatic organisms, and bees but is not thought to bioaccumulate.

## Precautions

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When handling products with methomyl, protective clothing should be worn along with protective eyewear at all times and mixing should be done from a distance (#INCHEM).

## Regulation

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Methomyl was introduced in 1966 and first registered by the EPA in 1968 by Dupont for commercial use on chrysanthemums, but numerous uses for the insecticide were quickly added to the registration and it is currently registered for a wide variety of applications including numerous crops, turf, livestock protection, commercial premises, and others (#EXTOXNET and #EPA). It is not registered for residential purposes

(#EPA). Methomyl has been reregistered numerous times and its use was limited in 1995, discontinuing its use on fly baits and adding a "bittering agent" to its formulations and requiring it to be packaged in colors unattractive to children to discourage its accidental consumption (#EPA). Additionally, its greenhouse applications were voluntarily can canceled in 1998

Source : <http://www.toxipedia.org/display/toxipedia/Methomyl>