



Tagetes Oil Fact Sheet
March 22, 2012

Office of Pesticide Programs
U.S. Environmental Protection Agency

Tagetes Oil (176602) Fact Sheet

Summary

Tagetes oil is a biochemical pesticide active ingredient intended for use as an insecticide/acaricide for the control of mites, whiteflies, aphids, thrips, mealybugs, scales, and psylla on a variety of food and non-food crops. The active ingredient is extracted from the flowering herb, *Tagetes minuta* (Muster John Henry or Mexican Marigold). The major constituents of the identified components of tagetes oil are terpenes, which are found in a variety of essential oils. The use of tagetes oil as an insecticide/acaricide is not expected to cause any unreasonable adverse effects to human health or the environment.

I. Description of the Active Ingredient

Tagetes oil is extracted from the flowering herb, *Tagetes minuta* (Muster John Henry or Mexican Marigold). The major constituents of the identified components of tagetes oil are terpenes, which are found in a variety of essential oils. Tagetes oil, as *Tagetes patula* L., *T. erecta* L., or *T. minuta* L. (*T. glandulifera* Schrank), is approved by the U.S. Food and Drug Administration (FDA) for use in food as a natural flavoring substance and natural adjuvant (in the oil form only) under 21 CFR 172.510. Tagetes oil is also used in some cosmetics including shampoos, soaps and lotions.

II. Use Sites, Target Pests, and Application Methods

Use Sites: A variety of food and non-food crops

Target Pests: Mites, whiteflies, aphids, thrips, mealybugs, scales, and psylla

Application Methods: Spray application

III. Assessing Risks to Human Health

Review of the required toxicity testing data concludes that tagetes oil does not exhibit any toxicity to humans except through dermal exposure, in which case tagetes oil demonstrated some acute toxicity and is moderately irritating to the skin. There have been no reports of hypersensitivity incidents. Based on this information, no human health risks are expected when pesticide products containing tagetes oil are used according to their respective label directions.

IV. Assessing Risks to the Environment

The product is a contact insecticide/acaricide that operates through a physical mode of action. The product is practically nontoxic to birds, fish and aquatic invertebrates and is not phytotoxic; toxic endpoints have not been identified for these species. The product is practically nontoxic via exposure through contact to nontarget insects. Based on the data submitted, the Agency has indicated in its review that the product may be moderately toxic via oral exposure to nontarget insects; however, no mortality was observed at the highest dose tested in the study. Additionally, significant oral exposure is not anticipated as the product is a contact insecticide and is expected to degrade rapidly in the environment. Toxic endpoints have not

been identified for nontarget insects via the oral or contact route of exposure. The results of the submitted studies and screening-level risk assessment indicate that use of the product according to label instructions should not result in adverse effects to birds, fish, aquatic invertebrates, plants or nontarget insects.

V. Regulatory Information

This is the first registration of a product containing the new active ingredient, tagetes oil. On September 18, 2009, the Agency received an application from Exponent on behalf of Plant Impact plc, to register the end-use products (EPs), Bug Oil Food Use (EPA File Symbol No. 85937-E) and Bug Oil Ornamental (EPA File Symbol No. 85937-R), containing the new biochemical active ingredient, tagetes oil, and the currently registered active ingredients, canola oil, thyme oil, and wintergreen oil under the provisions of section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). On December 16, 2009, the Agency announced receipt of this application to register a pesticide product containing a new active ingredient (74 FR 66639) and opened a 30-day comment period pursuant to the provisions of FIFRA section 3(c)(4). No comments were received following this publication.

VI. Applicant Information

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VII. Additional Contact Information

Ombudsman
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