methyl anthranilate
CAS number: 134-20-3
IUPAC: methyl 2-aminobenzoate;
SMILES (Simplified Molecular Input Line-Entry System): Nc1c(C(OC)=O)cccc1
Molecular Formula: $C_8H_9NO_2$
Mol. Wt.: 151.165

Colorless to pale yellow liquid with a heavy fruit-like odor

Use Pattern: Methyl anthranilate is used as a perfume, in ointments and as a flavoring agent in drugs, candies, bubble gum and soft drinks. It is common across many types of artificial flavor formulations but is most widely used as the primary component of synthetic grape flavor. However, its natural occurrence in grapes is limited to only the concord varieties.

At concentrations of 2000 to 3000 ppm, methyl anthranilate imparts a pleasant flavor, but at higher concentrations begins to taste bitter and peppery. Birds reject methyl anthranilate at very low concentration levels, and it is used extensively as an agricultural bird repellent sprayed on ripening crops, and as a bird aversion agent at airports, landfills and other sites.

Methyl anthranilate has also been used as a component of sunscreens as a UVA filter compound. Nevertheless, it is relatively weak in comparison to other common UVA filter compounds, such as benzophenones, and its use for this purpose has steadily decreased.

In functional perfumery, methyl anthranilate is an important precursor for producing Schiff's bases, which increase the chemical stability of the aldehyde components of a formulation, thus making the overall mixture longer lasting. The fragrances *Poison*, by Dior, and *Giorgio* are two examples of wearable formulations that rely heavily on a methyl anthranilate-aldehyde Schiff base component.

Production: While it is present in small amounts in the natural extracts of various plant species, the vast majority of commercially available methyl anthranilate is produced synthetically. Numerous synthetic pathways and manufacturing processes exist for its production. Among them are several processes utilizing benzene derivatives as precursors. The most common industrial processes derive methyl anthranilate from phthalic acid anhydride, which is readily available as a primary product of the plastics industry (and which is itself derived from petroleum and coal industry products such as naphthalene and o-xylene).

Occurrence: Methyl anthranilate occurs naturally in small amounts in concord grapes and in the extracts of a number of plants, including neroli, bergamot, lemon, jasmine and mandarin.

Regulatory Status: Methyl anthranilate is classified as a GRAS (Generally Recognized as Safe) by FEMA (Flavor and Extract Manufacturers Association) and has been approved by the US Food and Drug Administration for food use.