

# Citrus Oil Toxicity in Dogs and Cats

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## Toxin

Citrus Oil Extract (Limonene and Linalool).

## Source

Citrus oil extracts such as those found in insecticidal sprays, dips, shampoos, insect repellents, food additives, and fragrances.

## General Information

d-Limonene and linalool are citrus oils with insecticidal properties. These are metabolized in the liver resulting in liver damage or failure.

## Toxic Dose

Cats are more sensitive than dogs. The toxic dose for ingestion of d-limonene in dogs is 308 grams per pound of body weight. If cats are treated with dog products, the result may be fatal. Linalool exposure causes more severe clinical signs for a longer duration than d-limonene. If the product also contains piperonyl butoxide, the toxic effects of citrus oil extracts may be increased.

## Signs

Strong citrus smell to the skin, drooling, depression, weakness, hypothermia, trembling, ataxia, falling, low blood pressure, and dermatitis especially severe in the scrotal and perineal areas. Death may occur.

## Immediate Action

In cases of dermal exposure, bathe pet with liquid dish soap and warm water repeatedly until the citrus smell is gone. Dry thoroughly and do not allow the pet to become chilled. Seek veterinary attention for dermal exposure or ingestion.

## Veterinary Care

General treatment: Gastric lavage is performed and [activated charcoal](#) is administered, if the citrus oil was ingested. Vomiting is not induced because aspiration is a risk. Bathing is repeated in cases of dermal exposure.

Supportive treatment: Administer IV fluids, keeping the patient warm, and treat any other symptoms.

Specific treatment: Unavailable.

## Prognosis

Usually good to excellent, however, deaths have occurred and are more common in cats.