# Aluminium silicate (Kaolin)

## DOCUMENT M-CA, Section 3

## FURTHER INFORMATION ON THE ACTIVE SUBSTANCE

**Legislation**
**EU Regulation 1107/2009**

# OWNERSHIP STATEMENT



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# Version history[1]

| Date | Data points containing amendments or additions and brief description | Document identifier and version number |
|---|---|---|
| February 2018 | Initial version | MCA-S3 |
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[1] It is suggested that applicants adopt a similar approach to showing revisions and version history as outlined in SANCO/10180/2013 Chapter 4 How to revise an Assessment Report

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# CA 3 FURTHER INFORMATION ON THE ACTIVE SUBSTANCE

## CA 3.1 Use of the Active Substance

Kaolin is used as a physical barrier against insect pests, mainly on fruit trees and vines.

## CA 3.2 Function

The function of kaolin is that of an insect repellent.

Kaolin greatly reduces insect damage to crops by creating a particle film that has repellent and irritant effects on pests. It is also thought to camouflage crops from migrating insects by changing the wavelength of light reflected from the crop surface.

Kaolin also provides horticultural benefits for plants by allowing photosynthesis to occur while reflecting harmful IR and UV radiation. Studies have shown that kaolin-treated trees actually increase their rate of carbon fixation.

## CA 3.3 Effects on Harmful Organisms

Kaolin has contact action and acts as a physical repellent barrier against insect pests and excess sunlight.

Kaolin is totally inert and therefore not absorbed by or translocated in either the crop or the pest.

## CA 3.4 Field of Use Envisaged

Insect-repellent in vines.

## CA 3.5 Harmful Organisms Controlled and Crops or Products Protected or Treated

Vines: *Frankliniella occidentalis*;

## CA 3.6 Mode of Action

Immediately after application, a white film of kaolin coats the surface of the crop and provides a physical barrier to the pest. This white film acts as a deterrent to the pest. When the pest enters the sprayed area, it appears irritated and agitated.

When pests are present during and after spraying, their behaviour is modified: they usually stop feeding and will not oviposit.

## CA 3.7 Information on Occurrence or Possible Occurrence of the Development of Resistance and Appropriate Management Strategies

Kaolin has no toxic mode of action and therefore cannot induce resistance in pest populations.

Kaolin cannot cause resistance like conventional chemical insecticides. Kaolin is not killing the insects through a specific target site so selection pressure to counteract the effects of kaolin is of very low probability. Insects are very unlikely to be selected on the basis of modified behaviour and/or morphological attributes that avoid the repellent barrier effects of kaolin. In conclusion, there is very little risk of target pests developing resistance to kaolin.

## CA 3.8 Methods and Precautions Concerning Handling, Storage, Transport or Fire

Handling: when handling an unopened bag, care should be taken to avoid damaging the packaging in order to avoid spillage. When handling opened bags, care should be taken to avoid prolonged contact or inhalation of the powder.

Storage: the substance should be stored in a dry environment to avoid caking of the powder. Temperature has no impact on the stability of the substance.

Transport: Not classified as a dangerous good under transport regulation (USDOT, IMDG, IATA/ICAO).

Fire: Kaolin does not burn. When heated above 600ºC, kaolin will evolve water. No further decomposition will occur.

## CA 3.9 Procedures for Destruction or Decontamination

**Detailed instructions for safe disposal:**

Kaolin is a non-toxic, non-hazardous material which can be disposed of following local disposal laws and regulations. Kaolin, if disposed as received, is a non-hazardous waste. Local disposal laws and regulations will determine the proper waste disposal /recycling /reclamation procedure. Kaolin can be safely disposed of in landfill and packaging can be incinerated.

Packing Material: Kaolin is packaged in kraft paper bags suitable for disposal in landfill sites.

Spraying Equipment: Wash equipment thoroughly immediately after use. Fill the tank with clean water and spray out before storage or using other products. Traces of product may clog equipment filters if not cleaned thoroughly after use.

Contaminated packaging and materials may be rinsed with clean water. The nature of kaolin and its absence of solubility in water mean any traces of kaolin will become immediately apparent as suspended particles in rinse water.

## CA 3.10 Emergency Measures in Case of an Accident

Cover powder spill with plastic sheet or tarpaulin to minimize spreading and dust generation. Scoop up or vacuum the solid into a container for reclamation or disposal.

Kaolin is an inert insoluble mineral and no special method of decontamination of water is required other than physical removal of excessive quantities. Kaolin is not hazardous to humans, animals or the environment.