

## **INDOOR USES**

### General Information

### Product Information

Sultan miticide, a suspension concentrate (SC), is a selective contact miticide for control of a variety of mite pests on ornamental plants. When used as directed, Sultan is effective, providing knockdown and residual control of tetranychid mites on ornamental plants listed on the label. Sultan is not effective against broad mite, bulb mite, cyclamen mite, flat mite, or rust mite. Sultan is active on egg and motile stages.

Sultan is compatible with most biological control organisms used for mite control.

NOTE: Because of its selective activity on the Tetranychid family of mites, Sultan will not have activity on other species such as broad mite, bulb mite, cyclamen mite, flat mite, or rust mite. With selective activity against tetranychid mites, Sultan is also compatible with the use of beneficial/predacious insects or mites (including those listed following) within integrated pest management (IPM) programs.

### Beneficial Insects:

Common lacewing (*Chrysopa carnea*)

Insidious flower bug (*Orius insidiosus*)

### Predatory mite

- *Amblyseius fallacies*
- *Phytoseiulus persimilis*
- *Typhlodromus pyri*
- *Zezellia mali*

Seven-spotted lady beetle (*Coccinella septempunctata*)

Six-spotted thrips (*Scolothrips sexmaculatus*)

Spider mite destroyer (*Stethorus punctum*)

Western predatory mite (*Galendromus occidentalis*)

## Resistance Management

The active ingredient in Sultan is cyflumetofen, a member of the beta-ketonitrile class of chemistry. Sultan's mode of action is respiration inhibition classified by the Insecticide Resistance Action Committee (IRAC) as Mitochondria complex II electron transport inhibitor under Group 25. Unwarranted multiple use of a miticide with a given mode of action can result in the development of resistance.

DO NOT exceed the maximum seasonal use rate or the total number of applications of Sultan per season. To reduce the potential for developing mite resistance, rotate to a miticide with a mode of action outside IRAC Group 25.

Monitor treated mite populations to determine the need for reapplication, product rotation, or additional management practices. Read and follow product label before applying any miticide. Contact your local extension specialist, certified crop advisor, and/or BASF representative for additional IPM recommendations and specific steps for avoiding resistance. More information on managing mite resistance can be found on the IRAC website at <http://IRAC-online.org>.

## Use and Application Instructions

For Sultan to be most effective, apply it at the first sign of mites and before the build-up of heavy pressure. Application must be timed to coincide with locally recommended treatment thresholds in developing mite populations.

Sultan is not systemic or translaminar. Thorough and uniform coverage of the leaf surface and/or direct contact of the spray mixture with the target pest is required for satisfactory control. Foliar application may be made using properly calibrated ground sprayers. Apply Sultan in a minimum of 100 gallons/acre (or 100 gallons spray solution applied per acre). Because Sultan is NOT a systemic miticide, complete coverage is necessary for effective control. Applying Sultan at spray volumes lower than directed can make it harder to obtain thorough coverage and may reduce performance. Consult with your local or state extension personnel for

advice on miticide use and selection.

DO NOT apply where thorough coverage of plants is not possible. Application made with less than thorough coverage may result in slower activity and/or inadequate control. To provide optimum coverage of ornamentals with hard-to-wet foliage, an adjuvant can be used in the Sultan™ miticide spray solution. Test the safety and compatibility of all adjuvants before use. Always read and follow the specific adjuvant label using the proper concentration of adjuvant to avoid plant injury.

DO NOT apply Sultan if rain or irrigation event is expected within 1 hour following application. The product can be expected to be rainfast 1 hour after application.

#### Restrictions and Limitations

- DO NOT MAKE MORE THAN 1 APPLICATION BEFORE ROTATING TO A PRODUCT OF A DIFFERENT MODE-OF-ACTION GROUP.
- DO NOT make Sultan applications at intervals shorter than 14 days.
- DO NOT tank mix Sultan with:
  - Insect growth regulators
  - Plant growth regulators
  - Carbamate insecticides
  - Organophosphate insecticides
  - Pyrethroid insecticides
- For use in ground application equipment only.
- DO NOT apply by chemigation or aerial application.
- Not for use on plants intended for feed or forage.
- DO NOT use on vegetable transplants.
- DO NOT apply to plants exhibiting symptoms of stress or injury, such as stunting, wilting, leaf burn or drop, or abnormal growth.

## Use Precautions

Sultan has been applied to a wide variety of common ornamental plants without observed plant injury. Not all species, varieties, and cultivars have been tested for tolerance to Sultan, possible tank mix combinations with Sultan, pesticide treatments preceding or following those with Sultan, and combinations of Sultan with surfactants or adjuvants. Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing. Because many cultivars within a plant species vary in tolerance to chemical applications and growing conditions, the grower must recognize these differences and test the product accordingly. At a minimum, always test a small group of representative plants for tolerance to Sultan under local growing conditions and before large-scale use.

Grower assumes responsibility for testing species suitability under local growing conditions by treating a small number of plants at the specified rate. At a minimum, this should include evaluating treated plants for several weeks following treatment for possible injury or other effects. To the extent consistent with applicable law, by applying Sultan, the user assumes responsibility for any crop damage or other liability associated with factors beyond the manufacturer's control, such as weather, presence of other materials, and manner or use of application.

## Limitations, Restrictions, and Exceptions

### Application Method

- When mites appear, apply in sufficient volume of water to ensure thorough coverage of foliage. Apply in a minimum of 100 gallons of finished spray solution per acre by ground equipment including backpack or hand wand. Applying Sultan at spray volumes lower than directed can make it harder to obtain thorough coverage and may reduce performance.
- Use higher specified dosage for increased mite pressure or increased residual control. Lower rates can be used where mite infestations are light.

### Method

[Broadcast/Foliar Ground](#)

Rates

[field\\_rates 0](#)

[field\\_rates 1](#)

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Restricted Entry Interval

12 hours

Timings

[At the first sign of mites and before the build-up of heavy pressure.](#)