

SPECIMEN

Cyflumetofen

Group

25

Acaricide

Sultan®

miticide

For use in mite control on ornamentals grown in outdoor nurseries, retail nurseries, residential and commercial landscapes, interiorscapes, greenhouses, lathouses and shadehouses, containers, and on forest and conifer nurseries and plantations

Active Ingredient:

cyflumetofen: (2-methoxyethyl(*RS*)-2-(4-*tert*-butylphenyl)-2-cyano-3-oxo-3-(α,α,α -trifluoro-*o*-tolyl)propionate) 18.7%

Other Ingredients: 81.3%

Total: 100.0%

Sultan® miticide contains 1.67 pounds of cyflumetofen per gallon.

EPA Reg. No. 7969-337

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. For additional information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), you may contact BASF Corporation at 1-800-832-HELP (4357), twenty-four (24) hours per day seven (7) days per week.</p>	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed, absorbed through skin, or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber (includes natural rubber blends and laminates) ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

DO NOT apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS ON ALL CROPS

- Apply this product only as specified the EPA approved label and any supplemental labeling.
- **DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- **DO NOT** exceed the maximum seasonal use rate of 27.4 fl ozs (0.36 lb ai/A), the maximum rate per application, or the total number of **Sultan® miticide** applications per season as stated in **Table 1. Instructions for Using Sultan® miticide on Ornamental Plants.**
- Preharvest Interval (PHI) restrictions are also included in this table.
- **DO NOT MAKE MORE THAN 1 APPLICATION BEFORE ROTATING TO A PRODUCT OF A DIFFERENT MODE-OF-ACTION GROUP.**
- **DO NOT** make more than two (2) applications of **Sultan** per crop per year.
- **DO NOT** make **Sultan** applications at intervals shorter than 14 days.

(continued)

USE RESTRICTIONS ON ALL CROPS

(continued)

- **DO NOT** tank mix **Sultan® miticide** 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.
- For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber (includes natural rubber blends and laminates) ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard of agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, nurseries, or greenhouses.

DO NOT enter or allow others to enter treated areas until sprays have dried.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals. **DO NOT** store near food or feed.

Pesticide Disposal

Wastes resulting from using this product may be disposed of on-site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representatives at the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake

(capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to take if this material is released or spilled:

- In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label.
- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Product Information

Sultan® miticide is a suspension concentrate formulation containing the active ingredient cyflumetofen. When used as directed, **Sultan** provides knockdown and residual control of tetranychid mites on the ornamental plants listed on this label. **Sultan** is highly active on egg, nymph, and adult stage tetranychid mites. **Sultan** is not effective against broad mite, bulb mite, cyclamen mite, flat mite, or rust mite. Common mite species controlled by **Sultan** include:

Pests Controlled

Common Name	Scientific Name
Banks grass mite	<i>Oligonychus pratensis</i>
Brown almond mite	<i>Bryobia rubrioculus</i>
Brown wheat mite	<i>Petrobia latens</i>
Carmine spider mite	<i>Tetranychus cinnabarinus</i>
Citrus red mite	<i>Panonychus citri</i>
European red mite	<i>Panonychus ulmi</i>
McDaniel spider mite	<i>Tetranychus mcdanieli</i>
Pacific spider mite	<i>Tetranychus pacificus</i>
Spruce spider mite	<i>Oligonychus ununguis</i>
Strawberry spider mite	<i>Tetranychus turkestanii</i>
Texas citrus mite	<i>Eutetranychus banksi</i>
Two-spotted spider mite	<i>Tetranychus urticae</i>
Willamette spider mite	<i>Eotetranychus willamettei</i>
Yuma spider mite	<i>Eotetranychus yumensis</i>

Sultan can be used on ornamentals in the following use sites:

- Commercial and retail nurseries, field and container
- Forest tree and conifer nurseries or plantations
- Greenhouses, shadehouses, and lathhouses
- Interiorscapes
- Industrial, commercial and residential landscape maintenance areas
- Commercial, public, and recreational gardens

Sultan can be used on the following ornamental plants:

- Annual bedding plants
- Perennials, herbaceous and woody
- Flowering and foliage plants
- Woody plants and trees
- Bulbs and bulb-like ornamentals harvested as whole plants, bulbs, roots or cut flowers

Sultan may also be applied to juvenile fruit and nut trees, vines, brambles and bushberries grown in commercial ornamental nurseries or greenhouses. Immature and/or inedible fruits, nuts or berries that may appear on the plant, are not intended for harvest or consumption.

Sultan may be applied to bearing citrus trees, nut trees, and grape vines in commercial and residential landscapes; fruit from these trees and vines cannot be harvested with intent to sell.

Sultan is not intended for use in agricultural production. With selective activity against tetranychid mites, **Sultan** is compatible with most biological control organisms used for pest control, including the following:

Beneficial Insects

Common Name	Scientific Name
Common lacewing	<i>Chrysopa carnea</i>
Insidious flower bug	<i>Orius insidiosus</i>
Predatory mite	<i>Amblyseius fallacis</i>
	<i>Phytoseiulus persimilis</i>
	<i>Typhlodromus pyri</i>
	<i>Zetzellia mali</i>
Seven-spotted lady beetle	<i>Coccinella septempunctata</i>
Six-spotted thrips	<i>Scolothrips sexmaculatus</i>
Spider mite destroyer	<i>Stethorus punctum</i>
Western predatory mite	<i>Galendromus occidentalis</i>

With selectivity against the tetranychid family of mites, **Sultan** is compatible with the use of beneficial/predacious insects or mites in integrated pest management (IPM) programs.

Mode of Action

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 a 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.

Resistance-Management Recommendations

For resistance management, please note that cyflumetofen, the active ingredient in **Sultan**[®] miticide, belongs to the group of respiration inhibitors classified by the Insecticide Resistance Action Committee (IRAC) as target site-of-action **Group 25** acaricide, a Mitochondria complex II electron transport inhibitor. Any mite population may contain individuals naturally resistant to **Sultan** and other **Group 25** acaricides. The resistant individuals may dominate the mite population if this group of acaricides are used repeatedly in the same use sites. Repeated use of miticides with similar modes of action can lead to the buildup of resistant strains of mites.

- **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 different mode of action.
- Monitor treated mite populations for resistance development.
- Read product label before applying any miticide and follow label directions.
- Use tank mixtures with acaricides from a different group that are equally effective on the target pest when such use is permitted. **DO NOT** rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).

- Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
- The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity.
- Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Contact your local extension specialist, certified crop advisor, and/or BASF representative for additional resistance management or IPM recommendations.

Use and Application Instructions

For **Sultan** to be most effective, apply at the first sign of mites and before the build-up of heavy pressure. Applications 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 effective control. Foliar applications should be made using properly calibrated equipment.

Sultan is rainfast 1 hour after application. Applying **Sultan** if rainfall or irrigation is expected within 1 hour following application may effect product performance.

Application made with less than thorough coverage may result in slower activity and/or inadequate control.

To provide optimum coverage of ornamental with or on hard-to-wet foliage, an adjuvant can be used in conjunction with **Sultan**. 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 potential for phytotoxic response.

Use of an adjuvant with **Sultan** can mitigate spray residue on plants like poinsettia or other species where spray residues are often visible. Consult the **Plant Safety** section for more information.

Table 1. Instructions for Using Sultan® miticide on Ornamental Plants

Use Sites	Application Rate fl ozs/100 gallons Water	Use Directions
<ul style="list-style-type: none"> • Commercial and retail nurseries, field or container • Forest tree and conifer nurseries or plantations • Greenhouses, shadehouses and lathhouses • Interiorscapes • Commercial and residential landscape maintenance areas • Commercial, public, and recreational gardens 	13.7 fl ozs (0.18 lb ai)	<ul style="list-style-type: none"> • When mites appear, apply in sufficient volume of water to ensure thorough coverage of foliage. • When using conventional application equipment apply Sultan in 100 gallons of spray solution per acre. When using low volume, high pressure equipment apply Sultan in at least 20 gallons of spray solution per acre. If thorough crop coverage cannot be achieved with lower volumes, increase volumes. Applying Sultan at lower volumes may reduce coverage and/or reduce product performance. • DO NOT apply Sultan where thorough coverage of plants is not possible. • DO NOT exceed the maximum seasonal use rate of 27.4 fl ozs of Sultan per crop growing cycle. • DO NOT make more than two (2) applications of Sultan per crop growing cycle.

Plant Safety and Phytotoxicity Notice

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 phytotoxicity following **Sultan** application. In addition, not all possible tank mix combinations with **Sultan**, pesticide treatments preceding or following those with **Sultan**, or combinations of **Sultan** with surfactants or adjuvants have been tested. Local conditions can also influence plant response and may not match those under which BASF has conducted testing. Because many cultivars within a plant species vary in response 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 prior to large-scale use.

Grower assumes responsibility for testing species suitability under local growing conditions by treating a small number of plants at the specified label 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.

Spray Drift Management

Water Volume - Apply in at least 100 gallons/A spray solution. Because **Sultan** is not systemic or translaminar, thorough coverage of plant surfaces is necessary for effective control. Applying **Sultan** at spray volumes lower

than directed can make it harder to obtain thorough crop coverage and may reduce performance.

Fixed Boom Nozzle Height - Maximum nozzle height (release height) should be no greater than 2 feet above the plant canopy.

Variable Winds - **DO NOT** apply in variable wind conditions.

Wind Direction - Base wind direction (e.g. away from nontarget areas) on the average direction (not instantaneous).

Wind Speed - Drift potential increases during high wind speeds and low wind speeds (below 3 mph, because of inversion potential). **DO NOT** apply when winds speeds are less than 3 mph or greater than 15 mph.

Inversion Restriction - **DO NOT** make applications during temperature inversions because drift potential is high during a temperature inversion.

Terrain Precaution - Local terrain can influence wind patterns. The applicator must be familiar with these patterns and understand their impact on drift.

Sensitive Areas - To ensure the protection of threatened or endangered species, it is important to maintain spray drift loadings below levels of concern for any area adjacent to the application site that is not excluded as possible habitat for these organisms. The following restrictions apply:

- **Buffer distance** - 15 feet
- **Release height** - 20 inches
- **Droplet size** - A combination of spray nozzles and appropriate pressure must be selected to provide ASABE standard S571.1 droplet size category of fine (DV_{0.5} of ≥ 180 microns) or coarser than fine.
- **Maximum wind speed** - 15 mph

Additives and Tank Mixing Information

Shake container well before use.

Sultan® miticide can be tank mixed with most recommended fungicides, insecticides, liquid fertilizers, biological control products, adjuvants, and additives **except as noted in the Restrictions and Limitations section of this label.**

Under some conditions, the use of additives or adjuvants may improve the performance of **Sultan**. Local conditions can influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced mite control, or crop injury may result from mixing **Sultan** with other products.

Before using any tank mix (fungicides, insecticides, liquid fertilizers, biological control products, adjuvants, and additives), test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application. Treat a small group of plants including all cultivars, and evaluate for 3 to 7 days before applying to the entire crop.

When an adjuvant is to be used with this product, BASF recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

Consult a BASF representative or local agricultural authorities for more information concerning additives.

Tank Mixing Order

1. **Water** - Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. **Agitation** - Maintain constant agitation throughout mixing and application.
3. **Inductor** - If an inductor is used, rinse it thoroughly after each component has been added.
4. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
5. **Water-dispersible products** (such as **Sultan**, dry flowables, wettable powders, other suspension concentrates, or suspo-emulsions)
6. **Water-soluble products**
7. **Emulsifiable concentrates** (such as oil concentrates when applicable)
8. **Water-soluble additives**
9. **Remaining quantity of water**

Thoroughly mix and suspend each component before adding tank mix partners.

Maintain constant agitation during application.

Cleaning Application Equipment

Before application, start with clean, well-maintained application equipment. Following spray application, thoroughly clean all application equipment. Drain application equipment of any excess product. Thoroughly rinse application equipment and flush hoses, boom, and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. **DO NOT** clean equipment near wells, water sources, or desirable vegetation. Dispose of waste rinse-water in accordance with local regulations.

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with the potential to injure crops was used before **Sultan**.

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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We create chemistry