

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460 EPA Reg Number:

100-1138

MAY 1 5 2003

Term of Issuance:

Conditional

Name of Pesticide Product:

Thiolux Jet

NOTICE OF PESTICIDE:

X Registration

Reregistration (under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Syngenta Crop Protection Inc.

P.O. Box 18300

Greensboro, N.C. 27419-8300

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA Sec. 3(c)(7)(A) provided that you:

- 1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA Sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
- 2. Make the following labeling changes before you release the product for shipment:
  - a. Add the phrase "EPA Registration Number 100-1138".
  - b. Change "waterproof gloves" to "chemical resistant gloves made of waterproof material" in the Precautionary Statement's personal protective equipment section and in the Agricultural Use Requirement's box.
  - c. Add the heading "Pesticide Storage" to the "Storage and Disposal" section immediately above Pesticide Disposal. The sentence "must be stored under dry conditions" must follow the heading "Pesticide Storage."

Signature of Approving Official:

Mary J. Waller Mary L. Waller, Product Manager (21)

Fungicide Branch, Registration Division (7505C)

Date

5/15/03

- d. On page 5 add "PPE required" at the beginning of the sentence in the third paragraph in Agricultural Use Requirements Box.
- e. On page 6, under the heading Nutrient Use, delete the following words of the sentence "is recommended but not limited to use on the following crops" and replace with the following: "can be used on the following crops in addition to other crops listed on the label". Also in the same paragraph change the word "lawns" to "grass grown for seed".
- f.. On page 11 under Forestry Uses, add "Jet" after product name Thiolux. and again in the 4<sup>th</sup> sentence from bottom of paragraph. Also, correct the spelling in the 7<sup>th</sup> sentence from "pas" to "pass".
- g. At the top of page 11, change the word "CAUTION" to "NOTE:" The signal word cannot be used.
- h. On page 11 under the "Ornamentals Grass Seed Production" heading, the first row /second column should read as the following:

(ground) all ornamentals 
$$-> 3$$
 - 10 lbs./A (air) all ornamentals  $-> 3$  - 20 lbs./A

In the third column of the row "Grass Grown for seed", change 3 - 5 to 3 - 5 lbs./A".

- i. On page 12, change the word "current" to "additional".
- 3. Submit one copy of your final printed label prior to release of the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA Sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Sincerely,

Mary L. Waller

Product Manager (21)

Fungicide Branch

Registration Division (7505C)

Mary L. Walls

Enclosure: stamped label

# Thiolux Jet®

Dry Flowable Micronized Sulfur

Active Ingredient.

Sulfur	80.0%
Other Ingredients:	20.0%
Total:	100.0%

Guaranteed Analysis:

Derived from elemental sulfur

#### KEEP OUT OF REACH OF CHILDREN

#### **CAUTION**

SEE PRECAUTIONARY STATEMENTS

EPA Reg. No. 100-

EPA Est. 70992-FRA-002

SCP

30 POUNDS

SCP

50 POUNDS

Product ID. 130 (30 lb.)

Product ID. 150 (50 lb.)

Made in France

50 POUNDS

30 POUNDS

NET WEIGHT

NET WEIGHT

ACCEPTED
with COMMENTS
In EPA Letter Dated

MAY 15 2003

Under the Federal Insecticide, Fundicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 100-1138

FIRST AID	
If on skin or clothing:	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

#### **HOT LINE NUMBER**

For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident)
Call
1-800-888-8372

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wear long-sleeved shirt and long pants, socks, and shoes and waterproof gloves. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

# **Personal Protective Equipment**

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

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

# **Engineering Control Statements**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

# **User Safety Recommendations:**

#### Users should:

 Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

#### **Environmental Hazards**

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment and when disposing of equipment wash waters.

## Physical and Chemical Hazards

Sulfur dust suspended in air ignites easily. Keep away from heat, sparks, and flame. Do not smoke while applying this product.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Must be stored under dry conditions.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitations of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

# **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its 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. 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) 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 24 hours.

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 over long-sleeved shirt and long pants
- Waterproof gloves
- Socks and chemical resistant footwear

FAILURE TO FOLLOW THE DIRECTION FOR USE AND THE PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR PEST CONTROL, OR ILLEGAL RESIDUES.

Thiolux Jet is recommended for control of listed plant diseases, insects and spider mites on fruits, vegetables, and ornamentals when used as directed. Additionally, Thiolux Jet is a readily available source of sulfur, a necessary plant nutrient.

#### GENERAL INFORMATION

Some crops are susceptible to injury from sulfur under certain climatic conditions. The user is advised not to use on any crop unless local use has proven sulfur to be safe in that locality. Sulfur may burn foliage or cause fruit injury when temperatures are excessively high. Do not apply at such times. Do not apply to or allow spray drift on sulfur sensitive plants such as apricots, cranberries, spinach. Apply only to dormant Anjou pears. Do not use within two (2) weeks of an oil treatment, except for dormant sprays on pears and apples. For citrus, do not apply within 21 days of an oil application. Follow all other label directions or precautions as indicated. When growing crops for processing, consult processor before applying sulfur.

#### **Nutrient Use**

Thiolux Jet applications will provide sulfur for the plant's nutrient requirements and should be considered in the total plant nutrient applications. Thiolux Jet can be used as a micronutrient supplement by either foliar or soil application. Thiolux Jet is recommended but not limited to use on the following crops: alfalfa, almonds, avocados, apples, barley, all beans, broccoli, cabbage, cauliflower, carrots, citrus, corn, grapes, lawns, melons, nectarines, pears, peaches, peppers, plums, prunes, potatoes, peanuts, sorghum, soybeans, sugar beets, strawberries, tomatoes, turnips, walnuts, watermelons, and wheat. Consult your State Agricultural Experimental Station or Extension Specialist for advice in selecting treatments to best fit local conditions.

#### **APPLICATION PROCEDURES**

Fill spray tank half full with water. Pour needed amount into spray tank under agitation. If necessary, add a few drops of oil to avoid foaming. Maintain agitation throughout spray operation.

Use lower recommended rates on following host and pest recommendation table when using concentrate equipment. Use higher rates when using dilute applications.

#### **Dilute Application**

Ground Application - Apply specified rate in 20-60 gals. of water per acre.

Orchard Application - Apply specified rate in 100-800 gals, of water per acre.

# **Concentrate Application**

Ground Application - Apply specified rate in 5 gals. or more water per acre.

Orchard Application - Apply specified rate in 20-100 gals. of water per acre. Special concentrate equipment is necessary for these uses.

# **Aerial Application**

Apply specified rate in 3-20 gals. of water per acre. Orchard rates should not be applied in less than 10 gals. of water per acre.

### Chemigation

Thiolux Jet may be applied through sprinkler systems including center pivot, lateral move, end tow, side wheel roll, traveler, big gun, solid set, and hand move. Do not apply Thiolux Jet through any other type irrigation system. Do not apply Thiolux Jet through any irrigation system when wind speed favors drift beyond the area intended for treatment.

Crop injury or lack of effectiveness can result from uneven distribution of treated irrigation water. For center pivot systems, apply during one full revolution of the system. For other systems listed above (i.e., portable or solid set systems), apply during the final 15 minutes of the irrigation period. Do not operate irrigation system after application until deposit has thoroughly dried. If you have questions about system operation or calibration, contact State Extension Service specialists or chemigation equipment manufacturers.

# THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN APPLYING PESTICIDES AND PLANT NUTRIENTS THROUGH IRRIGATION SYSTEMS:

- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. Public water system means any system for provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a
  functional, reduced-pressure zone, backflow preventer (RPZ) or the
  functional equivalent in the water supply line upstream from the point of
  pesticide introduction. As an option to the RPZ, the water from the public

water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

- The pesticide injection system must contain a functional, automatic, quickclosing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

# THIOLUX JET APPLICATION RATES BY CROP AND PEST

Crop	Pest	lbs./A
alfalfa, cotton	Atlantic mite, red spider mite	3-5
Apply as needed.		
almonds, cherries, nectarines, peaches, plums, prunes	brown rot blossom, blight, cherry leafspot, powdery mildew, rust, scab, leafspot, silver mite, flat mite, red	10-30
	spider mite	
Apply at bloom or early petal fall. Re	epeat as necessary, usually 10-14 days a	tter a
period of wet weather. For brown ro	t of fruit, apply when fruit starts to ripen. from late spring to fall in a preventative p	For rust of
apples, pears	powdery mildew, scab, blister mite, red spider mite	10-30
	oply with cover sprays throughout the sea e made to apples and pears. Apply to Anj	
asparagus	rust	10-30
Apply after cutting stops. Irrigate and netervals throughout the season.	d cultivate before applying; repeat at 7 to	10-day
avocados	brown mite	10–30
Apply as needed.		
parley, corn, oats, rye, sorghum,	suppression - red spider mite, two-	6
soybean, wheat	spotted mite, grass banks mite,	
	Pacific mite; control - Atlantic mite (small grain only),	
	(Sinali grain Only),	
	powdery mildew (soybean only)	7.5-12
Apply when disease first appears and cheduled insect control program.	repeat as necessary or with the regular	
eans, peas, potatoes, rutabagas, urnips	powdery mildew, rust, red spider mite	3-10
vithout pesticides immediately after r	,	
roccoli, brussel sprouts, cabbage, auliflower, collards, kale, peppers	powdery mildew, rust, red spider mite	3-5
vithout pesticides immediately after r		
lackberries, boysenberries ooseberries, loganberries	powdery mildew	6-15
ihen disease first appears. Repeat a	re 6 inches long and before blossoms op at 7 to 10-day intervals or as necessary.	
lueberries, currants, dewberries,	powdery mildew	5-10

Crop	Pest	lbs./A
carrots, garlic, onions	Petrobia mite, powdery mildew	3-10
Apply when the disease first appears	and repeat as needed.	
citrus	flat mite, aardvark mite, silver mite,	8-20
	rust mite, bud mite, red spider mite,	
	six spotted mite, thrips, yuma spider	
	mite	
	G OIL or 21 days following oil treatment.	
cucurbits – cucumbers	powdery mildew	4-6
melons	powdery mildew	6-15
squash	powdery mildew	4-10
	appears. Repeat at 10 to 14-day interval	
temperatures reach 95°F. Do not use	ason. Sulfur can injure plants, especially	wnen
		6
grapes	powdery mildew, bud mite, blister mite, red spider mite	O
Regin application in late dormant stage	e or with cutworm spray in early shoot p	eriod
Repeat throughout season on 14 day		criod.
mangoes	powdery mildew	10-30
	eat in-bloom, after fruit set, and 3 weeks l	
necessary.	and make the second and a walker	
peanuts	rust, red spider mite, leafspot	3-5
	Repeat applications as necessary, usual	
days.		,
peppermint, spearmint	powdery mildew	4-6
Apply when mint is 5-6 inches tall or w	when disease appears. Repeat twice at 3	30-day
intervals. Do not apply within 30 days	of harvest.	
pistachio	citrus flat mite	10-30
Begin application when mites are first	detected. Repeat applications as neces	sary.
raspberries	powdery mildew	6-15
· · · · · · · · · · · · · · · · · · ·	lor. Continue throughout fruit set; repeat	as
weather requires.		
strawberries	powdery mildew, red spider mite	5-10
	epeat application with or without pesticid	
	f disease and repeat as necessary. Do n	ot use on
sulfur sensitive varieties.		40.00
sugar beets	powdery mildew, red spider mite	10-20
	without other pesticides at first symptom	
table beets	powdery mildew, red spider mite	3-5
	without other pesticides at first symptom	
tomatoes	russet mite, powdery mildew	6-20
Apply at first symptoms. Thorough co-	verage is required.	

Crop	Pest	lbs./A
	Pacific mite, almond mite, two-	10-20
	spotted mite, red spider mite	

Apply and repeat as necessary throughout season as necessary. Tank mix with chemical mite sprays to increase effectiveness. CAUTION - Certain varieties of walnuts are sensitive to sulfur sprays under certain conditions. Do not apply unless the varieties are known to be tolerant of sulfur.

Ornamentals, Grass Seed Production

Ornamentals - all (see below for	(ground)	all> 3 – 10
host and pest)	(air)	all> 3 - 20
Apply as aqueous spray for complete	plant coverage	. Begin when disease first appears

Apply as aqueous spray for complete plant coverage. Begin when disease first appears and repeat at 5 to 10-day intervals as necessary.

asters, carnations, cosmos, crepe myrtle, dahlia, delphinium,	powdery mildew	
gladiolus, ligustrum, sunflowers,		
sweet peas, violets, zinnias		
calendula, cherry laurels,	leafspot, powdery mildew	
chrysanthemums, hollyhock, smilax		
clematis, columbine, English ivy,	leafspot	
laurel, petunia, sage		
Roses	black spot, powdery mildew	
grass grown for seed	rust	3-5
	·	

Apply in tank mix with Tilt® Fungicide for enhanced control of rusts. Begin applications when rust pustules are evident and increasing in number from late spring through early summer. Do not exceed 12 lbs./A of Thiolux Jet per season. Read and follow all application rates and use precautions on companion fungicide label. Do not apply this tank mix through any irrigation system.

Forestry Uses

Crop	Pest	lbs./A
Douglas Fir trees – For use in Oregon Only.	Swiss Needle Cast (caused by Phaeocryptopus	30-60
Crogon Crity.	gaeumannii)	

Thiolux may provide suppression of Swiss needle cast caused by *Phaeocryptopus gaeumannii*. For best results, make the first application in the spring where there is 1–2" of new growth. Repeat as necessary every 10–14 days. Do not exceed a total of 3 applications per season. Use of a spreader—sticker is recommended to improve efficacy. Apply 30–60 lbs. of product per acre in sufficient water to obtain thorough, uniform coverage of the foliage. If making only one aerial pas over timber, use a minimum water volume of 15 gallons per acre. To improve coverage, apply ½ of the recommended rate per acre in a minimum of 10 gallons of water per acre one direction and repeat in the opposite direction using the remaining ½ of the recommended rate in a minimum of 10 gallons of water per acre. Do not exceed a total of 180 lbs. of Thiolux per acre per year. Use the higher use rate under heavier disease pressure. Reapply

the treatments the following year to protect the new foliage. Consult your local agricultural extension agent for correct timing of applications.

Note: Aerial application only. For application only to trees intended for timber production. Do not apply to trees in seedling nurseries, or trees intended for Christmas tree, ornamental, or landscape usage.

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For non-emergency (e.g. current product information) call Syngenta Crop Protection at 1–800–334–9481.

Syngenta Crop Protection, Inc. Greensboro, North Carolina 27409 www.syngenta-us.com

SCP

30 POUNDS

SCP

**50 POUNDS** 

THIOLUX-JET-A - bb - 11-15-02 Thi Jet nsp 11/21/02