42414-4





U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) Aerial Rios Building 1200 Pennslvania Ave., N.W. Washington, D.C. 20460

EPA Rea. Number:

Date of Issuance:

42414-4

JUN 2 4 2004

Term of Issuance:

Conditional

Name of Pesticide Product:

Sulfur dioxide

NOTICE OF PESTICIDE:

x Registration

Reregistration

Name and Address of Registrant (include ZIP Code):

Teck Cominco America Inc.

15918 E. Euclid Avenue

99216-1815 Spokane, WA

Attention: Mr. Neil E. Aerts

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 (FIFRA). 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 Section 3(c)(7)(A) provided that you:

- 1. Submit and/or cite all data required for registration of your product under FIFRA Section 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 label changes before you release the product for shipment:
- a. Revise the EPA Registration Number to read, "EPA Reg. No. 42414-4."
- b. Revise the reference to: "Technical Brochure. Supplied as a label supplement at point of sale." to state that it is the "Application Manual". This product cannot be safely be used without this Application Manual it cannot be considered as a supplement. If fact the label on the cylinder must state: "THIS PRODUCT IS ACCOMPANIED BY AN APPROVED APPLICATION MANUAL. READ AND UNDERSTAND THE ENTIRE LABELING (LABEL AND APPLICATION MANUAL) BEFORE USING THIS PRODUCT. CONTACT YOUR SUPPLIER OR TECK COMINCO AMERICA TO OBTAIN A REPLACEMENT COPY OF THE APPLICATION MANUAL."

Cont.

Signature of Approving Official:

Cal Sable for

Cynthia Giles-Parker Product Manager (22)

Fungicide Branch

Date:

JUN 2 4 2004

EPA Form 8570-6

EPA Reg. No.: 42414-4

cont.

- c) Page 7 of the Application Manual under Truck Fumigation must state: "Trucks and/or trailers must be properly aerated before moving over public roads or highways."
- d) Directions for Placarding of "Truck, Van, and Railcars" must be provided in the Application Manual. These directions must include detailed instructions on where the Placarding should be placed on the truck and or railcar.
- e) All references to Technical Brochure (e.g., bottom of page 4) must be revised to read "Application Manual".
- 3. Data for storage stability (830-6317) and corrosion characteristics (830-6320) must be submitted vithin 12 months.
- 4. Submit one copy of the revised final printed label before releasing the product for shipment.
- 5. If the conditions enumerated above are not complied with, the registration will be subject to cancellation in accordance with FIFRA Section 6(e).
- 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Sincerely,

Cynthia Giles-Parker Product Manager (22)

Can Sable

Fungicide Branch

Registration Division (7505C)

Compressed

Sulfur Dioxide

ACTIVE INGREDIENTS:

HAZARDS TO HUMANS AND COMMENTS. DOMESTIC ANIMALS In EPA Letter Dated:

DANGER Under the Federal Insecticide, DANGER — PELIGRO PRESSURIZED LIQUID GAS Projectide, and Rode modifie Act.

LIQUID CAUSES BURNS of SKIN and EYES

Do not breathe vapor in high concentration. Do not eyes, on skin or clothing. Do not take internally. Wear eye and skin protection necessary to prevent contact when handling. Wash thoroughly after handling and before eating or smoking.

Persons with a history of respiratory problems should avoid exposure to the product.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and wildlife. Do not spill or empty into streams, ponds, or any other body of water. Do not contaminate water or wetlands by cleaning of equipment, disposal of wastes, or direct application.

PHYSICAL AND CHEMICAL HAZARDS

Sulfur Dioxide is a Non-Flammable, Whitish Colored Gas of Pungent Odor. Corrosive in presence of water. Do not spray on any leaking container. Water will make product corrosive and may increase venting. Sulfur Dioxide can be sensed by taste at low-level concentrations.

Conditions of Sale:

- 1. Teck Cominco American Inc. warrants that this product consists of the ingredients specified and is reasonably suited for the purpose stated on this label when used in accordance with the directions under normal conditions of use. No one other than an officer of Teck Cominco American Inc. is authorized, and such authorization must be in writing, to make any other warranty, guarantee or direction concerning this product.
- 2. Because the time, place, rate of application, weather conditions, and normal or abnormal conditions of use and storage are beyond Teck Cominco American Inc.'s control, Teck Cominco American Inc.'s liability is limited to replacement of product or refund of purchase price. In no event shall Teck Commo American Inc. be liable for indirect or consequential damages.

PRECAUTIONARY STATEMENT CEPTED and Information 1999% 0.1% TUNE ZHE CONTROL REACH OF CHILDREN

HAZARDOUS VAPOR and LIQUEGISTING THE RES. NO.

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

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment

IF INHALED: Move person to fresh air.

> If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

> Call a poison control center or doctor for

further treatment advice.

IF ON SKIN OR Take off contaminated clothing

CLOTHING: rinse skin immediately with plenty of water

for 15 - 20 minutes.

Call a poison control center or doctor for

treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently

> with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5

minutes, then continue rinsing eye.

Call a poison control center or doctor for

treatment advice.

IF SWALLOWED: 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.

NOTE TO PHYSICIAN: probable mucosal damage may contraindicate the use of gastric lavage.

DIRECTIONS FOR USE

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

STORAGE AND DISPOSAL

STORAGE: Store in a locked, dry, level, wellventilated area at normal room temperature. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage or disposal. Do not store near flammable material, near the inlet of a ventilating or air conditioning unit, near any source of direct heat, or in a subsurface location. Store cylinders upright, secured to a rack wall to prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs, or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

When cylinder is empty, close valve before returning to supplier. Only the registrant or registrant's designated distributor are authorized to refill cylinders.

DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance. Return empty cylinders to Sierra Chemical at the location from which shipment was made as instructed. Return empty and/or partial cylinders only after consulting Sierra Chemical for proper shipping

> SEE TECHNICAL BROCHURE DESCRIBING USE OF TECK COMINCO AMERICAN INC. SULFUR DIOXIDE

Teck Cominco American Inc 15918 East Euclid Avenue Spokane, WA 99216-1815 800-432-3206

teckcominco

Compressed SULFUR DIOXIDE

TECHNICAL BROCHURE

Supplied as a label supplement at point of sale

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

PRESSURIZED LIQUID GAS KEEP OUT OF REACH OF CHILDREN

Compressed Sulfur Dioxide is a hazardous liquid and vapor under pressure. Inhalation may be fatal or cause serious acute illness. Prolonged or repeated exposure may cause impaired lung function. Do not breathe vapor. Liquid or excessive vapor can cause serious skin or eye injury. Do not get liquid on skin, in eyes or on clothing.

Sulfur Dioxide is an eye, nose, and throat irritant even at low levels of concentration. If tearing or upper respiratory tract irritation symptoms occur, leave fumigation area immediately.

It is recommended that a person with a history of respiratory problems should not be exposed to Sulfur Dioxide. Prior to employment and at 1-2 year intervals, medical assessments should be conducted of applicators and other persons who will be regularly exposed to Sulfur Dioxide.

FIRST AID

In all cases of overexposure, get medical attention immediately. Take overexposed person to a doctor or emergency treatment facility. Have the product container or label with you when calling a poison control center or doctor, or going for treatment

IF INHALED:

Move person to fresh air.

If person is not breathing call 911 or an ambulance, then give artificial

respiration, preferably mouth-to-mouth if possible.

Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR

Take off contaminated clothing

CLOTHING:

rinse skin immediately with plenty of water for 15 - 20 minutes.

Call a poison control center or doctor for treatment advice.

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IF IN EYES:

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.

Remove contact lenses, if present, after the first 5 minutes, then continue

rinsing eye.

Call a poison control center or doctor for treatment advice.

IF SWALLOWED: 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

Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

STORAGE, HANDLING, and DISPOSAL

STORAGE: Store in a secure location properly labeled for Category I pesticides. Do not remove the bonnet or safety cap protecting valve before use. Replace bonnet or safety cap when not in use. Do not store near flammable material, near the inlet of a ventilating or air conditioning unit, near any source of direct heat, or in a subsurface location. Do not contaminate water, food or feed by storage or disposal.

Store cylinders upright, secured to a rack or wall or placed in specially designed cases to prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs, or similar devices to unload cylinders.

When cylinder is empty after use, close valve by turning to the right until tight, disconnect lines and replace the protection bonnet before returning to supplier. Only Sierra Chemical Inc. is authorized to refill cylinders. Do not use cylinders for any other purpose.

DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Return empty cylinders to Sierra Chemical Inc. at the location from which shipment was made. Return empty and / or partial cylinders only after consulting Sierra Chemical Inc. for proper shipping instructions.

SPILL and LEAK PROCEDURES: Evacuate immediate area of the spill or leak. Use a NIOSH / MSHA approved self-contained breathing apparatus (SCBA) or combination air supplied / SCBA respirator for entry into the affected area to correct the problem. Move leaking or damaged cylinders outdoors or to an isolated location, observing strict safety precautions. Work upwind if possible. Allow spill to evaporate. Do not permit entry into spill area by unprotected persons until concentration of Sulfur Dioxide is less than 2.0 ppm as determined by

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use of a direct detection device. Always use an SCBA to enter an affected area where the concentration of Sulfur Dioxide is unknown. Contact Sierra Chemical Inc. at 775-358-0888 or Teck Cominco at 250-364-4214.

DIRECTIONS FOR USE

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

Sulfur Dioxide fumigant is a hazardous material and must be used only by individuals trained in its proper use. Before using, all label precautions and directions must be read, understood, and complied with.

All persons working with Sulfur Dioxide furnigant must be knowledgeable about the hazards of the product and be trained in the proper use of this furnigant and the proper use of required respirator equipment, detector devices, and emergency procedures.

When used for fumigation of enclosed spaces (e.g. warehouses, cold storage rooms, trucks, vans, boxcars, and other transport vehicles), it is important to follow requirements for applying Category I materials. It is recommended that two persons trained in the use of this product be present at all times from introduction of the fumigant through the aeration period.

PROTECTIVE CLOTHING: Wear protective clothing (long sleeves), gloves and boots that are impervious to Sulfur Dioxide when handling this product. Wear chemical goggles and a full face shield when making gas container hose connections. Wear a NIOSH / MSHA respirator approved for Sulfur Dioxide (SO2) when making fumigant applications. Contact lenses should not be worn.

RESPIRATORY PROTECTION: If the concentration of Sulfur Dioxide in the work area, as measured by a direct detection device, does not exceed 2.0 ppm, no respiratory protection is required. Examples of direct detection devices are Draeger handpump and appropriate detector tube, and Kitigawa or Sensidyne syringe type samplers with appropriate detector. Strictly follow the manufacturer's instructions provided with the measuring device.

For work environments where the Sulfur Dioxide concentration exceeds 2.0 ppm, all persons working in the fumigation area must wear a NIOSH / MSHA approved full face respirator. This type of mask may only be used for short exposures of limited duration. The user must be aware that the useful life of these respirators decreases with increasing Sulfur Dioxide concentration. A NIOSH / MSHA approved self contained breathing apparatus (SCBA) or combination air supplied SCBA respirator should always be available for emergencies, or used where the concentration of Sulfur Dioxide is unknown.

HOSES AND FITTINGS: Braided hoses compatible with Sulfur Dioxide under pressure are recommended. Unbraided hose in near-new condition specified for the same service may be used. Stainless steel (316 SS) fittings and hardware are recommended. Carbon steel will

corrode rapidly if moisture contacts Sulfur Dioxide. <u>Do not</u> use copper, brass, or aluminum fittings or hardware.

PLACARDING OF FUMIGATED WAREHOUSE AREAS:

Before fumigation, the applicator must placard or post all entrances to the fumigated area with signs bearing the following statements in English and Spanish:

- 1. The signal word "DANGER PELIGRO" in 2" letters.
- 2. The statement: "Area Under Fumigation: DO NOT ENTER / NO ENTRE"
- 3. The date and time of the fumigation.
- 4. Name of the fumigant used (Sulfur Dioxide).
- 5. Name, address, and telephone number of the applicator.

Any person who transfers a treated commodity to another site without aeration must ensure that the new site is placarded until the air around the commodity is below the threshold concentration of 2.0 ppm as measured by a direct detection device.

Remove placards when the concentration of sulfur dioxide in the treated site is below 2.0 ppm as determined by the use of a direct detection device.

TRUCK, VAN, RAILCAR FUMIGATION

The applicator must show on the manifest accompanying the load that the trailer has been furnigated with Sulfur Dioxide (SO₂). The statement on the manifest must show the following:

- 1. "Trailer fumigated with SO₂".
- 2. The date and time of fumigation.
- 3. Name of the fumigant used.

AERATION AND RE-ENTRY

After fumigation, treated areas must be aerated until the level of Sulfur Dioxide is below 2.0 ppm as determined by the use of a direct detection device (e.g. a Draeger hand pump and appropriate detector tube, Kitagawa or Sensidyne syringe detection device, or an equivalent detection device). Do not allow entry into the treated area by any person before the Sulfur Dioxide concentration is less than 2.0 ppm unless provided with a respiratory protection device (SCBA or combination air-supplied respirator / SCBA).

COMMODITY FUMIGATION DIRECTIONS

Follow all safety procedures specified on the label and in this Technical Brochure.

This product may be applied to the commodity in enclosed stationary spaces (fumigation, precooling, or cold storage rooms). Applications may be made to the commodity in the following transport vehicles: trucks, vans, trailers, and railcars.

Do not apply / aerate in a manner to allow drift onto areas occupied by unprotected humans or beneficial animals. Do not release fumigant into occupied work area. Do not release fumigant into the air where prohibited by regulation.

Do not apply so that <u>liquid</u> Sulfur Dioxide will come in contact with the fruit. Liquid Sulfur Dioxide on the fruit will cause bleaching of grapes. Enough fans should be operating in the fumigation space to volatilize all of the liquid Sulfur Dioxide and provide a uniform concentration throughout the room. It is recommended that an air volume of at least 0.5 times the volume of the fumigated space should be moved by the operating fans during each minute of gassing.

Prior to application, load the commodity to be fumigated into the treatment space. The lug boxes should be oriented such that the openings in each box are aligned with openings in the other boxes to promote airflow through the fruit in all boxes. Pallets of fruit should be stacked to promote airflow between them. Turn on circulation fans, close all vents, exhaust ports and vents into the space to be fumigated. Vaporize the liquid Sulfur Dioxide into the house hose system used for SO₂. The hoses should be ducted into open spaces where air movement is unrestricted. If spraying in front of a blower or fan equipment, be sure none is splashed onto the equipment or severe corrosion will result.

<u>GRAPES</u>

Fumigant for post-harvest use only on grapes held in cold storage to suppress spread of grey mold disease caused by <u>Botrytis cinerea</u>. The warehouse operator should work to minimize conditions that promote grey mold such as bruised or crushed berries, excess bunch shatter, etc.

APPLICATION TIMING: SO_2 furnigation should occur as soon as practical after harvest. For fruit to be stored for extended periods, initial gassing should occur on the day of harvest and repeated on a 7-10 day interval. For fruit being shipped to market soon after harvest, SO_2 furnigation can be applied before shipment, or in a truck or railcar if the grapes have been gassed three (3) or fewer times. For fruit gassed in a warehouse more than three times, 12 or more hours should be allowed to lapse before shipment.

Seeded varieties may be furnigated on a 7 - 10 day interval up to 20 times. Most seedless varieties may be furnigated on a 7 - 10 day interval up to 15 times. The Thompson Seedless variety should not be furnigated more than 12 times.

WAREHOUSE STORAGE FUMIGATION

RATE of APPLICATION: Using less than the recommended treatment levels of Sulfur Dioxide is not a use inconsistent with this label. However, using less than the recommended treatment levels of SO2 for fumigation may result in reduced control of grey mold caused by Botrytis cinerea.

INITIAL FUMIGATION: Use ¾ to 1% gas concentration based on measured volume of the cold storage room or fumigation chamber. (0.13° 0.188 th SO₂ per 100 th of space)

MAINTENANCE FUMIGATION: Use 1/4 to 1/2 % gas concentration based on the measured volume of the cold storage room or fumigation chamber. (0.046 = 0.091 lbs SO₂ per 100 lb of shade)

TREATMENT TIME: Gas treatment should last for 20-30 minutes starting when the gas is initially introduced into the room. Fumigation should be terminated by venting the room or scrubbing the recirculated air. It is essential that venting be started at or before 30 minutes after gassing initiation or excess residue may result. When venting is initiated, vigorous air movement is required to either exhaust the SO_2 through a vent or vents on the roof, or through a water scrubber. Venting or scrubbing must draw all SO_2 saturated air from the spaces between the berries within the following 20-30 minutes. This requires complete air movement and air replacement in the room at a rate of at least 0.1 to 0.3 of the cubic volume of the room per minute for a duration of 20-30 minutes. Measurement of exhaust fan capacity should be periodically checked to maintain this or a greater air movement efficiency. If a water scrubber system is used, it is essential that sufficient scrubbing surface is available to remove the SO_2 from the recirculating air to equal the rate of removal by direct venting.

APPLICATION - COLD STORAGE ROOM or FUMIGATION CHAMBER:

A pre-filled cylinder of Sulfur Dioxide matching the volume required for fumigation of a specific Cold Storage Room or Fumigation Chamber can be obtained from Sierra Chemical Inc, or a designated distributor.

Connect the bottle to a gassing system that has been installed for a specific space. Braided hoses are recommended, but unbraided hose in new condition specified for SO2 service under pressure may be used. Stainless steel fittings are recommended. Make sure all connections are secure. Open the cylinder valve and leave it open until the cylinder is empty. Close the valve and uncouple the cylinder from the system. Return the cylinder to Sierra Chemical Inc. as instructed.

APPLICATION - WAREHOUSE HIGH FREQUENCY / LOW DOSAGE TREATMENT

APPLICATION TIMING: SO2 fumigation should occur as soon as practical after harvest. For fruit to be stored for extended periods, initial gassing should occur on the day of harvest and be repeated three (3) times per week at the interval of 2 days, 2 days, 3 days. Seeded and seedless varieties of grapes may be fumigated on this high frequency, low dosage basis a s long as they are in storage.

INITIAL FUMIGATION: Use 34 to 1% gas concentration based on the measured volume of the cold storage room. (0.137 - 0.183 lbs SOs per 100 ft³ of space)

MAINTENANCE FUMIGATION: Use 200 to 400 ppm gas concentration based on the measured volume of the cold storage room. (0.0014 - 0.0028 lbs SO₇ per 100 ft³ of space)

TREATMENT TIME: Gas treatment will last until the room concentration is determined by measurement to be below 2.0 ppm. Vigorous air movement is required during the gassing and for approximately 30 minutes following gas introduction. No venting is required with this procedure.

APPLICATION - COLD STORAGE ROOM

A pre-filled cylinder of Sulfur Dioxide matching the volume required for fumigation of a specific Cold Storage Room or Fumigation Chamber can be obtained from Sierra Chemical Inc, or a designated distributor.

Connect the bottle to a gassing system that has been installed for a specific space. Braided hoses are recommended, but unbraided hose in new condition specified for SO2 service under pressure may be used. Stainless steel fittings are recommended. Make sure all connections are secure. Open the cylinder valve and leave it open until the cylinder is empty. Close the valve and uncouple the cylinder from the system. Return the cylinder to Sierra Chemical Inc. as instructed.

IN-HOUSE FOLLOW-UP PROCEDURE: Regular examination of fruit for mold growth is required for the duration of cold storage. Fruit examination should occur at least once weekly.

TRUCK FUMIGATION

Pre-install hose kit in the truck trailer through the drain line at the end of the trailer and under the pallets supporting the fruit. Close the trailer doors. Connect the pre-weighed container to the hose end. Turn the cylinder upside down and open the valve. Leave in this position 1-2 minutes or until empty. Close the valve, disconnect cylinder from the hose, remove hose from drain and return to container case for return to Sierra Chemical Inc. as instructed. See directions on container case for additional directions for installing truck fumigation kit. Trailers fumigated with SO_2 must be held for 24 hours before releasing for shipment.

RAILCAR FUMIGATION

Pre-install hose kit in the railcar under the pallets supporting the fruit. Close the doors. Connect the pre-weighed container to the hose end. Turn the cylinder upside down and open the valve. Leave in this position 1-2 minutes or until empty. Close the valve, disconnect cylinder from the kit hose, and return cylinder to container case for return to Sierra Chemical Inc. as instructed.