PM10 52251-1 1 of 10

FEB 20 1992

Mr. Dennis Morgan
Oregon-California Chemical, Inc.
29454 Meadowview Rd.
Junction City, Orgeon 97448

Dear Mr. Morgan:

Subject: Label Amendment - Metam Sodium
Or-Cal Sectagon II
EPA Registration No. 52251-1
Metam S.A.U.
EPA Registration No. 52251-42
Your Applications Dated January 23, 1992

The amendment referred to above, submitted in connection with registration under section 3(c)(7)(A) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) is acceptable provided you:

Submit/cite all data or other material required for registration/reregistration of your product under FIFRA section 3(c)(5) or FIFRA section 4 when the Agency requires all registrants of similar products to submit such data.

Submit five (5) copies of the final printed label.

If you have any questions regarding this matter, please contact me or Sidney Jackson at (703) 305-7610.

Sincerely yours,

SL

Susan T. Lewis
Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (H7505C)

CONCURRENCES								
SYMBOL								
SURNAME								
DATE								

EPA Form 1320-1 (12-70) OFFICIAL FILE COPY

ACCEPTED
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In EPA Lett

FEB 21

OR-CAL SECTAGON II® Booklet

Oregon-California Chemicals, Inc.
29454 Meadowview Road
Junction City, OR 97448

EPA Registration No. 52251 -1

FUMIGANT SOLUTION FOR ALL CROPS

For suppression of: Nematodes, Fungi, Bacteria, Weeds, Weed seeds and volunteer seeds.

ACTIVE INGREDIENTS

Sodium methyldithiocarbamate (anhydrous)	32.7%
INERT INGREDIENTS	67.3%
TOTAL	100.0%

Contains 3.18 lbs. active ingredient per gallon

KEEP OUT OF REACH OF CHILDREN

DANGER PELIGRO

PRECAUTION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

FIRST AID: Immediately start the procedures given below and contact a Poison Center, a physician, or the nearest hospital. Report the type and extent of exposure, describe the victim's symptoms, and follow the advice given.

If on skin: Immediately flush skin with large amounts of running water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.

If in eyes: Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention immediately.

If inhaled: Remove to fresh air. If not breathing, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen, preferably with a physician's advice. Get medical attention immediately.

If swallowed: Immediately give several glasses of water but do not induce vomiting. If vomiting does occur, give fluids again. Have a physician determine if condition of patient will permit induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious person.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive, causes eye and skin damage. Do not get in eyes, on skin, or on clothing. Harmful or fatal if swallowed. Do not breathe vapor or spray mist. Use proper protective clothing when handling (see Protective Clothing and Equipment Statement). Wash hands, arms and face thoroughly with soap and water after handling and before eating or smoking. Wash clothing and shoes before reuse. Do not apply to food or forage. Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. 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 where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment wash water. Apply this product only as specified on this label.

USE PRECAUTIONS

Keep off desirable lawns and plants. Do not apply within 3 feet of the drip line of desirable plants, shrubs or trees. Do not use in confined areas without adequate ventilation OR where fumes may enter nearby dwellings containing desirable growing plants. Do not use in greenhouses. Keep container tightly closed when not in use. Do not store near feed or food.

PROTECTIVE CLOTHING AND EQUIPMENT REQUIREMENTS

1. The following protective clothing and equipment are required to be used by persons actually engaged in carrying out any operations that are likely to involve direct contact with SECTAGON II® including mixing-loading, equipment calibrations or adjustments, clean up and repair of application equipment (equipment includes, but is not restricted to, chemigation equipment, shanks, tillers, drop lines, and holding tanks); sampling; clean up of spills; fumigant transfer; and rinstate disposal, or by any other person engaging in activities likely to result in direct contact with the product. This protective equipment must also be used for any operations that are done within 6 feet of unshielded, pressurized hoses containing SECTAGON II®.

a. A properly FIT TESTED NIOSH- or MSHA-approved half-face respirator with organic vapor cartridges plus non-venting chemical goggles, or a NIOSH- or MSHA- approved full-face respirator with organic vapor cartridges.

b. Body covering that has long sleeves and long pants. When a closed system is not used, mixers and loaders must also wear a chemical resistant apron or cloth coveralls.

c. Chemical resistant gloves and boots.

2. The following protective clothing must be worn at all times by persons operating or monitoring application equipment or entering treated fields within 48 hours after completion of application.

a. Chemical resistant footwear

b. Body covering that has long sleeves and long pants.

3. The following protective clothing and equipment must be immediately available at all times for use by persons operating tractor drawn ground application equipment or monitoring application equipment, or entering treated fields within 48 hours after completion of application.

a. A properly FIT TESTED NIOSH- or MSHA-approved half-face respirator with organic vapor cartridges plus non-venting chemical goggles, or a NIOSH- or MSHA- approved full-face respirator with organic vapor cartridges. This equipment must be worn when the pungent, rotten egg odor of SECTAGON II® is detected.

b. Chemical resistant gloves. These must be worn when a person is engaged in carrying out any operation that is likely to involve direct contact with the product, including those operations listed in Paragraph 1., above.

RE-ENTRY AND WORKER SAFETY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas for 48 hours after application unless protective clothing is worn. (Chemical resistant footwear and body covering with long sleeves and long pants; a respirator, if odor is detected and chemical resistant gloves if direct contact with the product in involved).

Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in treated areas or in an area to be treated with this product.

Oral warnings must include the exact information specified in the written warnings. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers.

Oral and written warnings must include the following information:

DANGER: Area treated with metam-sodium on (DATE)_____. Do not enter without appropriate protective clothing for 48 hours after application. In case of accidental exposure see Statement of Practical Treatment found on the SECTAGON II® label.

- Posting is required if a tarp is not used to cover treated area. Consult your State Department of Agriculture for further information.
- Posting is not required when a tarp is used to cover treated areas.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in a cool, dry place. Keep container closed when not in use. Do not store below 0° F. Product crystallizes at lower temperature. Warm or store at higher temperatures and mix to redissolve crystals and assure uniformity before use.

Do not stack more than three drums high. Leaking or damaged drums should be placed in overpack drums for disposal. Spills should be absorbed in sawdust or sand and disposed of in a sanitary landfill. Keep container closed when not in use.

PESTICIDE 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 by use 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.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE - LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions, the failure to follow the label directions, or good application practices, all of which are beyond the control of Oregon-California Chemicals, Inc. or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. Oregon-California Chemicals, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of Oregon-California Chemicals, Inc.. Oregon- California Chemicals, Inc. makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose. The exclusive remedy against Oregon-California Chemicals, Inc. for any cause of action relating to the handling or use of this product is a claim of damage and in no event shall damages or any other recovery of any kind against Oregon- California Chemicals, Inc. exceed the price of the product which causes the alleged loss, damage, injury, or other claim. Oregon-California Chemicals, Inc. shall not be liable and any and all claims against Oregon-California Chemicals, Inc. are waived, for special, indirect, incidental, or consequential damages or expense, of any nature, including, but not limited to, loss of profits or income, whether or not based on Oregon- California Chemicals, Inc. negligence, breach of warranty, strict liability in tort or any other cause of action. Oregon-California Chemicals, Inc. and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

DIRECTIONS FOR USE

For suppression of: Nematodes, Fungi, Bacteria, Weeds, Weed seeds and volunteer seeds.

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Use only according to label booklet and/or side panel instructions. Refer to supplemental labeling entitled Booklet, for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

READ ALL LABEL DIRECTIONS BEFORE USING

PRODUCT INFORMATION

SECTAGON II® is a water-soluble liquid. When applied to properly prepared soil, the liquid is converted into a gaseous fumigant. After a sufficient waiting period, the gas dissipates, leaving the soil ready for planting. SECTAGON II® is recommended for the control of weeds, plant parasitic nematodes, and soilborne fungi that cause reductions in the yield and quality of ornamental, food and fiber crops.

SECTAGON II® will control only those pests in the fumigation zone at the time of treatment. Recontamination may occur subsequent to the fumigant's dissipation from the soil.

Weeds and germinating weed seeds that are controlled include annual bluegrass, Bermudagrass, chickweed, dandelion, ragweed, henbit, lambsquarter, Amaranthus sp. (pigweed, careless weed), watergrass, Johnsongrass, nutgrass, wildmorning glory, purslane, barnyardgrass, crabgrass, goundsel, prickly lettuce, pineappleweed, nettleleaf, goosefoot, nightshade, Shepherdspurse, stinging nettle, Malva, London rocket, and fiddleneck. The best weed control is obtained when SECTAGON II® is applied to weeds that are actively growing.

The soil-borne plant pathogenic fungi controlled include species of Verticillium, Rhizoctonia, Pythium, Phytophthora, Sclerotinia, as well as Sclerotium rolfsii, Armillaria mellea (Oak root fungus), and Plasmodiophora brassicae (Club roof of crucifers).

The plant parasitic nematodes which SECTAGON II® controls include root knot, lesion, dagger, lance, needle, pin, reniform, stunt, stubby root, sting and spiral.

Note: SECTAGON II® will only control nematodes that are in the fumigated zone at the time of treatment. The fumigated zone is defined as the depth of penetration that SECTAGON II® achieves at the time of application. In Oregon and Washington, SECTAGON II® will only suppress Meloidogyne chitwood.

Other pests controlled include symphillids or garden centipedes.

Treatment Guidelines

For optimum results from soil fumigation with SECTAGON II® certain procedures should be observed at designated times in the treatment program. Described in this section area important guidelines for each of the four stages of the treatment process:

Planning a SECTAGON II® Application

Preparing a field for application

Applying SECTAGON II®

Preparing for planting after application of SECTAGON II®

Your sales representative will help you select the best treatment program for your particular needs.

Planning a SECTAGON II® Application

Time of Application

SECTAGON II® is applied after harvest and 14-21 days before a new crop is planted. In some areas of North America, fall applications are preferred because the fumes dissipate over the winter, allowing planting to begin as soon as favorable springtime conditions arrive.

Application Rate

Apply 2 to 100 gallons of SECTAGON II® per treated acre depending on crop, target pest, and soil properties. Soil properties to consider when determining the application rate include the depth of soil to be treated, soil texture and percent organic matter.

Application in Tank Mix with Liquid Fertilizer

SECTAGON II® may be injected in a mixture with liquid fertilizers. Since the composition of liquid fertilizers vary considerably, the physical compatibility of each fertilizer/SECTAGON II® tankmix should be checked by using the following procedure:

Mix a small quantity of SECTAGON II® and liquid fertilizer in a glass container. SECTAGON II® and fertilizer should be mixed in the same ratio as they will be applied to the field (i.e., if 40 gallons of SECTAGON II® and 40 gallons of liquid fertilizer are to be applied per acre, then SECTAGON II® and fertilizer should be mixed in the jar in a 40:40 or 1:1 ratio). Agitate the liquids to attain a complete mixture.

If a uniform mix cannot be made, the mixture should not be used. If the mixture remains uniform for 30 minutes, the combination may be used. Should the mixture separate after 30 minutes, but readily remix uniformly with agitation, the mixture can be used if adequate agitation is maintained in the tank.

DO NOT PLACE CAPS ON JAR, AS INCOMPATIBLE MIXES MAY EVOLVE HYDROGEN SULFIDE GAS.

USE PROMPTLY AFTER MIXING WITH WATER OR FERTILIZER. DO NOT ALLOW SOLUTION TO STAND.

Flush all equipment with water after each day's use. Dissassemble valves and clean carefully.

Target Pest and Depth of Treatment

For control of weeds and fungi causing seed or seedling diseases, treatment of only the top 1 to 4 inches of soil may be required. For control of nematodes and fungi which occur throughout the rhizosphere, treatment to depths of greater than 4 inches may be required. For a given soil type, the required application rate will increase proportionately with the depth of treatment required.

For example, if 25 gallons of SECTAGON II® per acre is required to treat 4 inches, then 50 gallons of SECTAGON II® will be required to treat to a depth of 8 inches. Choose the appropriate application method to distribute SECTAGON II® evenly throughout the soil to the required depth.

Organic Matter in the Soil

Plant material under the soil surface should be thoroughly decomposed before SECTAGON II® is applied. Because of the absorbing effect of humus, soils with high levels of organic matter under the surface require higher than usual doses of SECTAGON II®. For example, muck soils require twice the amount of fumigant that would be used in mineral soils.

Soil Texture

Application rates will vary with the soil texture. For instance, clay soils require more SECTAGON II® than light sandy soil.

Preparing a Field for Application

Soil Cultivation

Cultivate the soil thoroughly before treatment, breaking up all large clods. If the soil crusts following pretreatment irrigation, lightly cultivate it again before treatment with SECTAGON II®

Soil Temperature During Treatment

At the time of fumigation, the soil temperature should be in the range of 40°-90° F (4°-32 °C) at a depth of 3 inches.

To prevent rapid evaporation of the product from the soil avoid treating soil during times of the day when soil temperature exceed 90° F (32° C). Instead, make the application during the early morning hours when the soil temperature is coolest.

Measuring the Soil Moisture

Application should be made under "good seed bed moisture condition"; that is, the soil moisture should be about 30-80% of field capacity. As a simple field test, squeeze a handful of soil into a ball and then gently try to break it apart with your fingers. If it breaks easily, the soil moisture content is sufficient. If it will not break apart or if water can be squeezed out, it is too wet. When necessary, 1-2 weeks prior to treatment sprinkle or flood irrigate the soil to increase the moisture content. The soil must be moistened to at least the desired treatment depth.

Phytotoxicity

SECTAGON II® is phytotoxic. Protect valuable, non-target plants by stopping soil applications of SECTAGON II® at least 3 feet short of the drip line of trees, shrubs, and other desirable plants. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

Applying SECTAGON II®

Use of Diluted SECTAGON II®

Do not store the diluted product. Use SECTAGON II® promptly after it has been mixed with water. In dilute solutions in water, SECTAGON II® decomposes over a period of weeks. Although SECTAGON II® is stable in its concentrated form. It is unstable in acid dilutions.

Odors During Treatment

Strong odors during or after treatment are a signal that the fumigant is escaping and needs to be sealed in the soil.

Sealing SECTAGON II® in Soil

To be most effective, SECTAGON II® should be sealed in the soil. Sealing methods include applying irrigation water or plastic tarpaulin and packing soil with a roller or drag. Tarpaulin should be spread loosely over the treated area and secured to prevent removal by wind. They should remain in place for at least 48 hours. Seven days after treatment, the sealed area should be cultivated to a depth of 2 inches to aerate the soil. When tarpaulin are used to seal the soil, wait at least 21 days before planting.

CHEMIGATION - GENERAL PROCEDURES

When applying by chemigation methods the following precautions must be observed:

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move; flood (basin); furrow; border; or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

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.

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.

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, inpatient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters of at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol of at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

NOTE: Oregon-California Chemicals, Inc. does not encourage connection of chemigation systems to public water systems. The following information is provided for users who have evaluated all alternative application and water source options before choosing to make such a connection.

Public water system means a system for the 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 preventor (RPZ) or the functional equivalent in the water supply line upstream from 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 measuring of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing 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, controls on the pesticide injection pump are also needed 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.
Do not apply when wind speed favors drift beyond the area intended for treatment.

SPRINKLER SYSTEM CHEMIGATION

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 pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also 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.

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.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

FLOOD (BASIN), FURROW OR BORDER IRRIGATION SYSTEM CHEMIGATION

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

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 pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also 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.

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.

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.

Do not dilute in supply tanks. Agitation of supply tank recommended after freezing.

DRIP CHEMIGATION

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 pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also 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.

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.

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.

NOTICE: Do not operate irrigation systems without safety valves or other devices to prevent back siphoning of SECTAGON II® into water sources. Irrigation water treated with SECTAGON II® should be maintained on the treated area until the water is absorbed by the soil. The tank containing SECTAGON II® must be connected to the discharge side of the irrigation pump or other pressurized equipment attached to the irrigation line. Do not apply in irrigation systems that result in overlapping application of SECTAGON II®. Do not apply when weather conditions favor drift from target areas.

PREPARING FOR PLANTING AFTER APPLICATION OF SECTAGON II®

Effect of Rain

If a SECTAGON II® application is rained on less than 24 hours after treatment, lack of control at and near the soil surface may result.

Recontamination

Precautions must be taken to prevent recontamination of treated soil with plant pathogenic fungi and plant parasitic nematodes. Use clean seeds and plants. Before farm equipment is driven into the treated area, it should be rinsed free of the untreated soil form other fields.

Interval Between Treatment and Planting

Because SECTAGON II® can be harmful to living plants, an appropriate interval must be observed between soil fumigation and planting. On well drained soils which have a light to medium texture and which are not excessively wet or cold following application, planting can begin 14-21 days after treatment. If soils are heavy or especially high in organic matter, or if they remain wet and or cold (below 60° F or 15° C) following application, a minimum interval of 30 days should be observed.

Aeration before planting

Soils, including soils high in clay or organic matter, should be allowed to aerate and dry thoroughly after treatment with SECTAGON II®. During cold and/or wet weather, frequent shallow cultivation can aid the escape of SECTAGON II® from the soil.

Testing for Dissipation of SECTAGON II®

After the waiting period has passed, if there is any question about the complete escape of SECTAGON II® from the soil, transplant a seedling into the treated soil, If the plant develops normally without any signs of chemical injury, crop planting can begin.

USES, APPLICATION METHODS & RATES

FIELD APPLICATION WHERE ENTIRE AREA IS BEING TREATED

POWER ROLL SEAL METHOD (NON TARP)

Use a RO-TO-VATE & ROLL™Applicator only. Contact your local agricultural extension service, distributor or the manufacturer for approved RO-TO-VATE & ROLL™ Applicator specifications.

When to Treat: Apply SECTAGON II® 2-6 weeks prior to planting, whenever soil type and conditions permit. For best results with annual crops, treat the soil each year. Do not use SECTAGON II® to treat any type of soil when it is cold and/or wet.

Soil Preparation: SECTAGON II® gives best results when conditions permit thorough diffusion of the fumigant through the soil and the soil surface can be power roll sealed to prevent excessive fumigant loss during the exposure period. The soil should be prepared to seed bed condition, free of dry clods, relatively low in undecomposed organic matter with a level soil surface. A smooth soil surface is required for uniform distribution of SECTAGON II® during incorporation.

Soil Moisture: Soil moisture should range between 30-50% of field capacity.

Soil Temperature: Soil temperature should range between 40° to 90° F at the depth of incorporation. Cool soil temperature and high soil moisture will slow diffusion of fumigant and planting date/time may be delayed. Hot soil temperature and low soil moisture allows extremely rapid diffusion of fumigant and hinders a good soil seal.

Application: Use undiluted SECTAGON II®. Apply with suitable application equipment that will ensure incorporation of SECTAGON II® to the desired depth below the final soil surface. (Contact your dealer or the manufacturer for the specifications for suitable application equipment).

DOSAGE AND USE RECOMMENDATIONS

	GALLONS PER TREATED ACRE DEPTH OF INCORPORATION					
SOIL TYPE	1"	2"	3"	4"	5"	6"
SAND	3 - 6	6 -12	9 -18	12-14	15-30	18-36
SANDY LOAM	4 - 8	8 -16	12-24	16-32	20-40	24-48
SILT LOAM	5 -10	10-20	15-30	20-40	25-50	30-60
CLAY LOAM	6 -12	12-24	18-36	24-48	30-60	36-72
ORGANIC PEAT OR MUCK	6 -12	12-24	18-36	24-48	30-60	36-72

Important Soil Treatment Precautions

Crops to be hilled: For crops that require soil movement (hilling) prior to or after planting, incorporate SECTAGON II® to a depth that will allow the tillage required to occur without penetrating below the depth of treatment.

Crops to be bedded: For crops to be bedded care must be taken that exposed sides of raised beds are not cracked or open compared to the power rolled surface. If necessary, add power rollers of the required height or other sealing equipment to the ends of the bedding equipment to seal the sides.

Note: The use of SECTAGON II® for the control of weeds, weed seeds and shallow inhabiting soil fungi requires that NO SOIL CULTIVATION OCCUR FOLLOWING TREATMENT until time of planting.

This method of treating soil with SECTAGON II® will not be effective for the control of nematodes outside the treated zone. This method of SECTAGON II® application can be used in combination with other soil fumigants to control the nematodes persisting in the surface 1 to 6 inches of soil normally not controlled with injected soil fumigants.

Zone of treatment will be limited by diameter of applicator. If pest is deeper than applicator can treat to, use a different method. For further information contact your local agricultural extension service or the manufacturer.

SOIL INJECTION

Use injectors (shanks, blades, fertilizer wheels, plows, etc.) to apply SECTAGON II® at the rate of 20 to 100 gallons per acre into well prepared soil. Seal immediately after application.

Example: apply through injectors placed 4 inches below surface and 5 inches apart.

SPRINKLER SYSTEM

Use only those sprinkler systems which give large water droplets to prevent excess loss. Use 50 to 100 gallons SECTAGON II® per acre for control of nematodes and fungi at a depth of 24 inches. For control of weeds and fungi at a depth of 8 inches or less, use 20 to 100 gallons per acre. Inject the SECTAGON II® in enough water to reach the desired treatment depth. The product should be continuously metered into the irrigation system throughout the entire application period. Flush the system with only enough water to clear lines. If the soil surface dried quickly, reseal it with 15 minutes of water once a day for the next day or two.

When using a sprinkler application method, apply SECTAGON II® only when the air temperature is below 90° F (32° C). This precaution is recommended to guard against evaporation of the product. Either low humidity or high winds can also cause the evaporation of SECTAGON II® before it can be drenched into the soil. To prevent wind drift of the fumigant, apply only when wind conditions are suitable.

To prevent runoff of treatment solution during sprinkler application, do not exceed the infiltration rate of the solution into the soil. Should runoff occur, isolate it from growing crops and water sources. Once collected, reapply it to the treated area. See use precautions in "CHEMIGATION" section.

CALIFORNIA ONLY: Application must be in compliance with Technical Information Bulletin - California "Application Guidelines for California When Applying Metam-Sodium Through Sprinkler Irrigation Systems". This information bulletin may be obtained from your local pesticide dealer or a metam-sodium registrant.

CHECK OR FLOOD IRRIGATION

Meter SECTAGON II® at a steady rate into water during irrigation. Use 50 to 100 gallons of SECTAGON II® per acre, depending upon the kind of pest and depth desired, in 3 to 18 inches of water per acre. See use precautions in "CHEMIGATION" section.

DISC APPLIED METHOD

Spray SECTAGON II® immediately in front of disc. Use 20 to 100 gallons per acre. Follow immediately with a roller to smooth and compact the soil surface.

DRIP IRRIGATION

SECTAGON II® may be injected into drip irrigation systems prior to planting. The area must be calculated in accordance with the size of the band treated. Apply 50 gallons per broadcast acre in one acre inch of water (27,000 gallons). The resulting concentration is 700 ppm on a weight basis. (Example: if the emitters irrigate 10% of each acre then use 5 gallons SECTAGON II® in 2,700 gallons water). Inject continuously. Do not slug treat. See use precautions in "CHEMIGATION" section.

APPLICATION TO BED OR ROWS

POWER ROLL SEAL METHOD (NON TARP)

Use a modified RO-TO-VATE & ROLL™ Applicator only. Contact your local agricultural extension service, distributor or the manufacturer for approved RO-TO-VATE & ROLL™ Applicator specifications.

When to Treat: Apply SECTAGON II® 2-6 weeks prior to planting, whenever soil type and conditions permit. For best results with annual crops, treat the soil each year. Do not use SECTAGON II® to treat any type of soil when it is cold and/or wet.

Soil Preparation: SECTAGON II® gives best results when conditions permit thorough diffusion of the fumigant through the soil and the soil surface can be power roll sealed to prevent excessive fumigant loss during the exposure period. The soil should be prepared to seed bed condition, free of dry clods, relatively low in undecomposed organic matter with a level soil surface. A smooth soil surface is required for uniform distribution of SECTAGON II® during incorporation.

Soil Moisture: Soil moisture should range between 30-50% of field capacity.

Soil Temperature: Soil temperature should range between 40° to 90° F at the depth of incorporation. Cool soil temperature and high soil moisture will slow diffusion of fumigant and planting date/time may be delayed. Hot soil temperature and low soil moisture allows extremely rapid diffusion of fumigant and hinders a good soil seal.

Application: Use undiluted SECTAGON II® . Apply with suitable application equipment that will ensure incorporation of SECTAGON II® to the desired depth below the final soil surface. (Contact your dealer or the manufacturer for the specifications for suitable application equipment).

DOSAGE AND USE RECOMMENDATIONS

	GALLONS PER TREATED ACRE DEPTH OF INCORPORATION					
SOIL TYPE	1"	2"	3"	4"	5"	6"
SAND	3 - 6	6 - 12	9 - 18	12-14	15-30	18-36
SANDY LOAM	4 - 8	8 - 16	12-24	16-32	20-40	24-48
SILT LOAM	5 - 10	10-20	15-30	20-40	25-50	30-60
CLAY LOAM	6 - 12	12-24	18-36	24-48	30-60	36-72
ORGANIC PEAT OR MUCK	6 - 12	12-24	18-36	24-48	30-60	36-72

Important Soil Treatment Precautions

Crops to be hilled: For crops that require soil movement (hilling) prior to or after planting, incorporate SECTAGON II® to a depth that will allow the tillage required to occur without penetrating below the depth of treatment.

Crops to be bedded. For crops to be bedded care must be taken that exposed sides of raised beds are not cracked or open compared to the power rolled surface. If necessary, add power rollers of the required height or other sealing equipment to the ends of the bedding equipment to seal the sides.

Note: The use of SECTAGON II® for the control of weeds, weed seeds and shallow inhabiting soil fungi requires that **NO SOIL CULTIVATION OCCUR FOLLOWING TREATMENT** until time of planting.

This method of treating soil with SECTAGON II® will not be effective for the control of nematodes outside the treated zone. This method of SECTAGON II® application can be used in combination with other soil fumigants to control the nematodes persisting in the surface 1 to 6 inches of soil normally not controlled with injected soil fumigants.

Zone of treatment will be limited by diameter of applicator. If pest is deeper than applicator can treat to, use a different method. For further information contact your local agricultural extension service or the manufacturer.

SOIL INJECTION

SECTAGON II®, at the rate of 75 to 100 gallons per treated acre (1 1/2 to 2 pints per 100 sq. ft.) may be injected into preformed plant beds following the directions given above under soil injection. If a wider treated band is desired, space 2 or more injectors (shanks, blades, fertilizer wheels, etc.) at desired intervals to cover the desired treating width. Seal immediately.

If SECTAGON II® is injected into established plant beds through plastic tarps to terminate growth of a previous crop, and to fumigate the bed in preparation for planting a subsequent crop, the terminated crop should not be used for any food or feed purposes after SECTAGON II® has been applied.

SOIL COVERING METHOD (BED-OVER METHOD)

SECTAGON II® may be sprayed or dripped onto the soil immediately ahead of bed-shaping equipment. Cover the SECTAGON II® with soil to a depth of 3 to 6 inches. The soil should be rolled and compacted immediately. The recommended rate of SECTAGON II® is 50 to 100 gallons per acre of treated soil, approximately equivalent to 1 to 2 pints per 100 linear ft. of 12-inch wide row.

DRIP IRRIGATION

During pre-irrigation, check drip tape for uniform distribution and repair if necessary. Apply 20 to 75 gallons SECTAGON II® per treated acre (0.4 to 1.5 pints per 100 sq. ft. of treated soil) using enough water to thoroughly wet entire desired treatment zone. During the entire irrigation period, inject SECTAGON II® continuously into drip line as close as possible to treatment area. Two or more lines per bed may be needed to ensure full coverage.

Application must be continuously supervised. This is very important: weed elimination will not be satisfactory if too much water is applied. An adequate concentration of SECTAGON II® must be present at the time of weed seed germination in order to be effective. Further directions for use are as follows: Ground must be in seed-bed condition, no clods larger than 1/2" in diameter. Beds must be listed, shaped and ready for planting. Soil moisture must be at 50% of field capacity in the top 2-3" at time of SECTAGON II® application. See use precautions in "CHEMIGATION" section.

DRENCH METHOD

SECTAGON II® may be applied to finished beds in enough water to soak at least 2 inches deep for control of shallow seeded weeds. To avoid contamination by untreated soil, do not disturb the treated area. Apply 20 to 100 gallons of SECTAGON II® per treated acre.

ADDITIONAL RECOMMENDATIONS

TOBACCO PLANT BEDS

Fall applications are recommended wherever possible. Read and follow DIRECTIONS FOR USE carefully. Treatment in the South should generally be made before November 30.

A. TARP METHOD: Prepare the bed 5 to 7 days before application to insure best conditions for weed seed germination and fumigant action of SECTAGON II®. The bed should be free of clods, level and in good tilth. Apply 1 to 1 1/2 gal. of SECTAGON II® in a minimum of 40 gal. of water per 100 sq yds. Apply uniformly over the entire bed. Cover the bed immediately with a plastic cover. Keep covered no less than one day, but no more than two days. The cover need not be tented, but should be secured to prevent wind from uncovering the treated area. Seven days after date of SECTAGON II® application, loosen the treated soil to a depth of 2 in. Do not seed tobacco earlier than 21 days after SECTAGON II® application.

B. DRENCH METHOD: Apply 2 1/2 gal. SECTAGON II® in 150 to 200 gal. of water per 100 sq. yd. Application may be made with sprinklers, sprayers with nozzles or any suitable equipment. Follow directions given above for seed bed treatment.

SYMPHYLID SUPPRESSION

Soil should be in good seed bed condition to a depth of 8 to 10 inches. Maintain adequate moisture during spring season. Treat during July-August when symphylids are in the upper soil surface. Apply 20 gal. SECTAGON II® per acre using blade or chisel injector. Inject below level of symphylid concentration, usually 6 to 8 inches. Pack soil immediately after application.

NOTE: SECTAGON II® will only control Nematodes which are in the fumigated zone at the time of treatment.

POTATOES

For suppression of potato pests such as Root Knot Nematodes, Weed Seeds, Verticullum Dahliae (Early Maturity Disease).

Apply 40 to 100 gals. SECTAGON II® per acre using thin shank injector rig.

Sprinkler system preplant application -Use 50 to 100 gallons of SECTAGON II® per acre. Inject into a sprinkler system that can deliver an even water distribution for the area being treated. Inject all of the SECTAGON II® needed for the area covered and apply in a minimum of 1 acre inch of water. Soil temperature should be in the range of 40° F. to 90° F. in the treatment zone. Soil moisture immediately prior to treatment must be 50 to 75% of field capacity down to 24" level. SECTAGON II® may be applied where crop stubble or vegetation exists without prior tillage, provided there is adequate soil penetration of SECTAGON II®. Soil condition must facilitate even moisture penetration without

runoff. On very light soils, keep surface area moist by sprinkling periodically for 2 or 3 days. Do not apply when plants are present. See use precautions in "CHEMIGATION" section.

NOTE: SECTAGON II® will suppress root knot nematodes in the fumigated zone at the time of treatment. The fumigated zone is defined as the depth of penetration that SECTAGON II® achieves at the time of application.

If high numbers or deep nematodes are identified, anticipate nematodes to build up throughout the growing season. Some damage will occur unless additional action is taken.

SECTAGON II® has no soil residual and reinfestation of a field can occur from numerous sources such as deep nematode populations, seed pieces, irrigation water, equipment contamination and blowing wind.

EARLY MATURITY DISEASES OF POTATOES IN OREGON

Apply 40 gallons SECTAGON II® per treated acre using thin shank injector rig with shanks spaced at intervals to cover the desired treating width.

NOTE: SECTAGON II® will suppress root knot nematodes in the fumigated zone at the time of treatment. The fumigated zone is defined as the depth of penetration that SECTAGON II® achieves at the time of application.

MINT

Verticilium wilt control.

When infestation is limited to small spots in a field, spread can be reduced by treating the soil with 100 gals. SECTAGON II® per treated acre (2 pints per 100 sq. ft.) using injector blade or thin shank injector rig with injectors spaced at intervals to cover the desired treating width.

WHEAT AND BARLEY

For suppression of certain root diseases caused by Early Season Soil Fungi - before applying SECTAGON II®, cultivate the area to be treated to break up clods. Apply 2 1/2 to 10 gallons per treated acre 14 to 21 days before planting. SECTAGON II® may be diluted with water or non-acidic liquid fertilizer immediately before applying. Inject SECTAGON II® to a depth of 5 to 8 inches into moist soil. Space injector shanks at intervals to cover the desired treating width.

Do not mix SECTAGON II® with acidic fertilizer or other acidic solutions. For best results, moisture in the treated zone should be 50% of field capacity or more.

Use only in areas which receive 15 or more inches of rainfall per year.

PEANUTS -
CYLINDROCLADLIUM BLACK ROT (CBR) CONTROL

Apply SECTAGON II® at the following rates

CBR-resistant cultivar (NC 8C): 10 gallons per treated acre or 5.5 pints per 1,000 feet of treated row CBR-susceptible peanut cultivars (Florigant, GK-3, NC-5 Keel 29): 20 gallons per treated acre or 11 pints per 1,000 feet of treated row CBR-highly susceptible cultivars (VA 81B, NC7): use of SECTAGON II® is not recommended.

Soil Preparation - Before applying SECTAGON II®, residue from the previous crop should be decomposed (enhanced by fall discing) and plowed under in the spring with mold-board plow. Soil incorporated preplant herbicides must be applied before application of SECTAGON II®.

Application - Apply SECTAGON II® with a gravity flow regulator through chisel-type or coulter-type applicators. Center each applicator, one per row, in front of a bedshaper to mark the location of chemical deposition. SECTAGON II® should be deposited 6 to 8 inches below the soil surface of beds. Bed and applicator spacing should coincide with row spacing at planting. Soil temperatures must be in a the range of 60° F to 90° F at 3 inch depth before application.

Tillage and Planting after Application - Do not mix treated soil with untreated soil by tillage or other cultural practices. Plant peanuts in the center of treated beds no earlier than 14 days following application of SECTAGON II®. An at-planting nematicide treatment will be necessary in fields with heavy infestation of root knot, ring and/or string nematode.