

**RESTRICTED USE PESTICIDE  
DUE TO ACUTE TOXICITY**

*Rel. to pages 348.*

For retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.  
**COASTAL MC-2R**

**PREPLANT SOIL FUMIGANT**

ACTIVE INGREDIENTS:	By Wt.
Methyl bromide.....	98%
INERT INGREDIENT.....	2%
<b>TOTAL</b>	<b>100%</b>

This product weighs 14.4 pounds per gallon.

**DANGER**

**PELIGRO**

**KEEP OUT OF REACH OF CHILDREN**

**POISON**

**ACCEPTED**  
**22 SEP 1987**  
**5549-73**  
UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENTICIDE ACT  
FOR ECONOMIC POISON REGISTE-  
ED UNDER NO. \_\_\_\_\_ SUBJECT  
TO ATTACHED COMMENTS.

**PRECAUTION AL USUARIO:** Si usted no le Ingles, no use este producto hasta que la etiqueta le haya sido explicado ampliamente.

**Statement of Practical Treatment**

~~In all cases of overexposure, get medical attention immediately.  
Take person to a doctor or emergency treatment facility.~~

- IF INHALED:** Remove exposed person from contaminated area. Keep warm. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Do not give anything by mouth to an unconscious person. If not unconscious, rinse mouth out with water.
- IF ON SKIN:** Immediately remove contaminated clothing, shoes, and any other item on skin. Wash contaminated skin area thoroughly with soap and water.
- IF IN EYES:** Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes.

**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

Manufactured by  
**COASTAL CHEMICAL CORPORATION**  
**GREENVILLE, NC**

EPA EST. NO. 5549-NC-1  
EPA REG. NO. 5549-73  
Net Contents 150 lbs.

**HAZARDS TO HUMANS  
DANGER**

Extremely hazardous liquid and vapor under pressure. Do not breathe vapor. Inhalation may be fatal or cause serious acute illness or delayed lung or nervous system injury. Liquid or vapor can cause serious skin or eye injury which may have a delayed onset. Do not get liquid on skin, in eyes or on clothing.

This product contains chloropicrin as a warning agent. Chloropicrin may be irritating to the upper respiratory tract, and even at low levels can cause painful irritation to the eyes, producing watering. If these symptoms occur, leave the fumigation area immediately.

NOTE TO PHYSICIAN: Early symptoms of overexposure are dizziness, headache, nausea and vomiting, weakness and collapse. Lung edema may develop in 2 to 48 hours after exposure, accompanied by cardiac irregularities; these effects are the usual cause of death. Repeated overexposures can result in blurred vision, staggering gait and mental imbalance, with probable recovery after a period of no exposure. Blood bromide levels suggest the occurrence, but not the degree, of exposure. Treatment is symptomatic.

PROTECTIVE CLOTHING: Methyl bromide may be trapped inside clothing and cause skin injury. Wear loose, long trousers and long-sleeved clothing and socks that are cleaned after each wearing. Do not wear jewelry, gloves or other gas confining apparel. If full-face respiratory protection is not required, wear full face shield for eye protection when handling liquid. Do not reuse contaminated clothing until thoroughly cleaned and shoes until aerated. After application immediately remove clothing, shoes and socks. Dried clothing cannot be adequately decontaminated.

RESPIRATORY PROTECTION: Respiratory protection equipment is required when using Coastal MC-2R for certain applications. Refer to the Directions for Use for complete instructions on the requirements for respiratory protective equipment.

**ENVIRONMENTAL HAZARDS**

**BEST AVAILABLE COPY**

This pesticide is toxic to wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

SPILL AND LEAK PROCEDURES: In case of a rupture of hose or fitting while applying fumigant, immediately stop the tractor and motor. Immediately evacuate area of spill or leak. Use a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air supplied/SCBA respirator for entry into affected area to correct problem. Approach from upwind to make necessary repairs. Do not reenter area without respiratory protection until a spill has evaporated or a leak has been repaired, and the methyl bromide concentration is determined to be less than 5 ppm. In case of a leaking container, remove to an isolated area and discharge contents under a polyethylene sheeting of 4 mil or greater thickness onto the soil surface in accordance with instructions under Soil Fumigation Directions. Contaminated soil, water, and other cleanup debris is a toxic hazardous waste. Report spill to the National Response Center (800-424 8802) if the reportable quantity of 1000 pounds is exceeded.

## PHYSICAL AND CHEMICAL HAZARDS

Contents under pressure. Do not use or store near heat or open flame. In fires fueled by other materials, Coastal MC-2R may liberate hazardous gases. The use of Coastal MC-2R with aluminum, magnesium, zinc and alkali metals will result in the liberation of toxic gases, and possible fire and explosion. In addition, severe corrosion of containers and equipment made of these metals will occur.

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.  $\pi$  This fumigant is a highly hazardous material and should be used only by individuals trained in its proper use. Before using, read and follow all label precautions and directions.

*Rev. to the edited label for EPA Registration No. 5549-50.*  
 $\pi$  2nd paragraph.

## STORAGE, HANDLING, AND DISPOSAL

**Storage and Handling:** Store in a locked, dry, cool, well-ventilated area. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage. Store cylinders upright, secured to a rack or wall to prevent tipping. Containers 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 reuse. Replace safety cap and valve protection bonnet when cylinder is not in use. When cylinder is empty, close valve, screw safety cap on to valve outlet, and replace protection bonnet before returning to shipper. ~~Only the registrant, or his~~  
designee, is authorized to refill cylinders. Do not use cylinder for any other purpose.

**Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide is a violation of Federal Law. If these wastes can not 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. Return empty cylinders freight collect to the Coastal Chemical Corporation location from which shipment was made. Return partial cylinders only after consulting Coastal Chemical Corporation for proper shipping instructions. In either case, use delivering carrier when possible.

**BEST AVAILABLE COPY**

**SOIL FUMIGATION DIRECTIONS:** Coastal MC-2R may be used only for soil fumigation. The following precautionary procedures must be followed.

**PRECAUTIONARY STATEMENTS:** The following precautions must be followed prior to soil fumigation.

- A) Comply with all local regulations and ordinances. Obtain an application permit from agricultural regulatory agencies as required.
- B) ~~Never~~ fumigate alone. It is imperative to always have an assistant present and proper protective equipment available in case of accidents.
- C) Persons in charge of all operations must advise other workers of all safety precautions and procedures. In addition, they must instruct their helpers in the mechanical operation of the equipment.
- D) Handle this fumigant in the open, with the operator "up wind" from the container where there is good ventilation.
- E) Check fumigant delivery system for leaks before beginning operation.
- F) Two trained persons must be present during introduction of the fumigant.
- G) When fumigating soil from a tractor, 5 gallons of water must be carried on the tractor and placed where it is readily accessible. In addition to water available on the tractor, at least 5 gallons of additional water must be available from the service truck. ~~This water must be potable and in containers~~ marked "Decontamination water, not to be used for drinking."
- H) All trash should be cleared from the field before starting fumigation.

The following precautions must be followed DURING the soil fumigation operation.

- A) Two trained persons must be present during introduction of the fumigant.
- B) Do not make application of this fumigant when there is little or no air movement or there is an atmospheric inversion.
- C) Do not lift injection shanks to turn at the end of a pass until fumigant has been purged or drained from system following closure of shutoff valve.
- D) If trash is inadvertently pulled up by the shanks when fumigating, it must be covered with polyethylene film.
- E) When changing the cylinders, be certain they are turned off and fumigant system is not under pressure.

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The following precautions must be followed AFTER soil fumigation.

- A) Post all treated area with warning signs until aeration is complete.
- B) Two trained persons must be present during removal of the tarpaulin, if used.
- C) Keep all animals and unauthorized people away from area during removal of tarpaulin, if used.

**APPLICATION METHODS:** Coastal MC-2R is to be used only as a preplant soil fumigant.

A. Tarpaulin Methods for Field, Nursery, Turf, Greenhouse, and Seed or Transplant Bed Soils.

Pests controlled when present in soil at time of treatment:

Plant-parasitic nematodes, including root-knot, root lesion (meadow), cyst, citrus, burrowing, false root knot, lance, spiral, ring, sting, stubby root, dagger, awl, sheath and stunt (stylet).

Soil-borne disease causing organisms, including the fungi Pythium, Rhizoctonia, Phytophthora, Pyrenochaeta, Sclerotinia, Sclerotium, and Fusarium and the clubroot organism Plasmodiophora.

Weeds, including broadleaf weeds such as broomrape and lambsquarters and grasses such as bermudagrass, annual bluegrass, torpedograss and quackgrass. Not effective against hard seed weeds, such as mallow, dodder, morningglory, and certain leguminous weeds.

Insects, including wireworms, cutworms, grubs, rootworms, ants, and garden symphylans.

**NOTE:** Fumigation may temporarily reduce nitrification in the soil thus increasing levels of ammonium nitrogen and soluble ammonium salts to potentially phytotoxic levels. Accumulation of ammonium is most likely to occur when maximum rates of fumigant and fertilizer are applied to soils that are acidic, wet, cold, or high in organic matter. Apply only fertilizer containing at least 30% nitrate until the crop is well established and soil temperature is above 65 degree F., then fertilize as indicated by soil test. Acid soils should be limed before fumigation to stimulate nitrification and to reduce possible ammonium toxicity.

**Pretreatment Soil Preparation:** Plow, or rip or otherwise till the soil to the depth to which effective treatment is required. The soil should be worked until free of clods or large lumps. Residue from previous crops should be worked into the soil to allow for decomposition prior to fumigation. Soil moisture should be adequate for seed germination. Coarse textured soils can be fumigated with higher moisture content than fine textured soils. For best results, soil should be kept moist for at least four days prior to treatment. Do not fumigate if the soil temperature is below 50 degrees F. For best results, fumigate when soil temperature is 60 to 80 degrees F. at the depth of 6 inches.

1. ~~General Application~~ Inject Coastal MC-2R with a chisel type applicator having the chisels spaced no more than 12 inches apart and injecting the fumigant to a depth of 6-8 inches below the soil surface. The soil surface must be covered with polyethylene film immediately after treatment with simultaneous film laying equipment or by sealing with a roller or cultipacker and covered within 20 minutes with polyethylene film or other suitable cover. Consult dosage rate table for proper rates of application and exposure periods. At the end of the exposure period, remove tarpaulins and aerate for two weeks before introducing transplants or vegetative plant parts. Crop seeds may be planted after 96 hours following end of exposure period.

2. Row or Bed Application: Apply the broadcast rate to the area actually treated, i.e., the area delimited by the film mulch. Consult the dosage rate table for treatment rates.

Use one or more shanks per bed spaced not more than 12 inches apart, depending on the area to be treated. Inject the fumigant 6 to 8 inches below the surface of the bed and simultaneously cover with polyethylene film or other suitable cover. At the end of the exposure period, remove tarpaulins and aerate for two weeks before introducing transplants, or vegetative plant parts. Crop seeds may be planted after 96 hours following the end of exposure period. Where polyethylene film is to be utilized as a mulch, aeration is accomplished by making holes in the film on spacings appropriate for the crop to be planted.

B. Special Instructions for Florida Citrus: Preplant or replant fumigation of citrus soil for control of Phytophthora and citrus nematodes in Florida sandy soils. Trees which are planted in this treated soil will not bear harvestable fruit for a period of at least 24 months. Apply with chisels spaced 12 inches apart to a depth of 6 to 8 inches and seal immediately with 4 mil polyethylene film. Apply Coastal MC-2R at the rate of 1 1/2 to 2 pounds per 100 square feet. Expose to fumigation for 96 hours. This treatment will control disease to a depth of 4 feet. Remove cover and aerate for two weeks before setting transplants in treated soil.

C. Non-Tarp Nematode Control: This is a preplant or replant fumigation of citrus, vineyards and deciduous fruits and nuts. Do not apply to soil where trees or vines will bear harvestable fruit within 24 months. A waiting period of at least 14 days should be observed between application and planting. This method controls plant parasitic nematodes when present in soil at the time of treatment.

Pretreatment Soil Preparation: Plow or rip the soil to the depth to which effective treatment is required. The soil should be worked until free of clods or large lumps and residue from previous crops should be worked into the soil to allow for decomposition prior to fumigation. To ensure maximum fumigant penetration the soil at the point of injection should not contain more than 5 to 15% moisture depending on soil type. However, to improve sealing, the soil surface may be moistened by means of a sprinkler application of 1/4 to 1/2 inch of water prior to final preparation and application. Avoid treatment of soils that contain more than 30% clay or those with high organic content. For best results, fumigate when the soil temperature is 60 to 80 degrees F. at the depth of 6 inches. Do not fumigate when soil temperature is below 50 degrees F.

Chisel Application: After the soil has been properly prepared, inject 400-870 pounds of Coastal MC-2R per acre by chisel application with chisels spaced up to 66 inches apart to a depth of 24 to 30 inches. In the row, strip treatments may be made by using a single shank. Chisels should have a wing welded on the back 2 to 4 inches above the chemical outlet to partially break the chisel mark. To fill in the chisel mark and seal the surface, disc and cultipack immediately after fumigant injection. Be sure that the disc and cultipacker cover an area at least 33 inches beyond the chisel lines. Refer to the dosage rate table for dosage rates and exposure times.

D. Special Instructions for the Control of *Armillaria mellea* (Oak Root Fungus) on Citrus, Vineyards and Deciduous Fruits and Nuts.

Pretreatment Soil Preparation: To obtain the maximum control of *Armillaria mellea* with Coastal MC-2R, soil must be dry to a depth requiring treatment. This can be accomplished by: a) planting sudangrass in the spring, irrigating until the grass has established itself, then withholding further irrigation; b) naturally, by allowing plants to grow without irrigation. When soil is dry, cut and remove grass, plants and debris. Rip soil to a depth of 36 inches and disc to smoothness.

Dosage and Method of Application: This is a preplant or replant treatment. Crops which are planted in this treated soil will not bear harvestable fruit for a period of at least 24 months. Methods and rate of application are as follows.

1. Non-tarp Chisel Application (Not for use in California). After the soil has been properly prepared, inject 400 to 870 pounds of Coastal MC-2R per acre by chisel application with chisels spaced up to 66 inches apart to a depth of 24 to 30 inches. In the row strip, treatments may be made by using a single shank. Chisels should have a wing welded on the back 2 to 4 inches above the chemical outlet to partially break the chisel mark. To fill in the chisel mark and seal the surface, disc and cultipack immediately after fumigant injection. Be sure that the disc and cultipacker cover an area at least 33 inches beyond the chisel lines.

2. Tarp Chisel Application: After the soil has been properly prepared, apply 400 to 870 pounds of fumigant per acre by chisels spaced up to 66 inches apart, as described above, and cover with polyethylene film.

Exposure and Aeration Period: To ensure the proper time-concentration relationship to control oak root fungus, observe a seven day exposure period before removing the polyethylene film cover. Allow a 14 day aeration period after removal of tarp or application by non-tarp methods before planting trees or vines.

E. Special Instructions for Greenhouse Soil Fumigation: The use of methyl bromide and chloropicrin in confined spaces presents a potential hazard to humans and plant life. Special precautions must be taken in order that these potential hazards be minimized. It is the responsibility of the individual supervising the fumigation operation to see that all safety precautions are strictly observed.

Before the fumigation operation commences, the supervisor of the fumigation job shall have conducted proper training of all personnel involved in the fumigation (includes use of safety equipment), removed all persons from the area not directly involved in the fumigation, and inspected the equipment to ensure proper application.

Two persons trained in the use of this product must be present during the introduction of the fumigant, initiation of aeration, and after aeration when testing for reentry. Two persons do not need to be present if monitoring is conducted remotely (outside the area being fumigated). If the concentration of methyl bromide and/or chloropicrin in the worker area, as measured by a pump and appropriate detector tubes, does not exceed 5 ppm (methyl bromide) or 0.1 ppm (chloropicrin), no respiratory protection is required. If these concentrations are exceeded at any time, all person in the fumigation area must wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplies/SCBA respirator or evacuate the area.

Application of Coastal MC-2R to greenhouse soils is by the same methods as for field soils (see Sections A.1 and A.2 above). Consult dosage rate table for proper rates of application and exposure periods. If a wind is blowing, all injection should be made upwind from a previous injection site. Immediately after injection of the fumigant and tarping, a qualified person, wearing respiratory protective equipment, should monitor the tarped area with a halide detector. If excessive leaks are found, seal the source of the leak immediately.

During this operation, all windows and doors should be open and fans operating to maximize ventilation. The greenhouse must be placarded on all entrances to the fumigated area with signs bearing, in English and Spanish:

1. The signal word DANGER/PELIGRO and the skull and crossbones symbol.
2. The statement, "Area under fumigation, DO NOT ENTER/NO ENTRE".
3. The date of fumigation
4. Name of the fumigant used. (i.e., Coastal MC-2R)
5. Name, address, and telephone number of the applicator.

Aeration and Reentry. After fumigation, treated areas must be aerated until the level of methyl bromide is below 5 ppm and chloropicrin is below 0.1 ppm. Do not allow entry into the treated area by any person before this time, unless protective clothing and a respiratory protection device (NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator) is worn. Do not remove a placard until the treated commodity is completely aerated. To determine whether aeration is complete, each fumigated site or vehicle must be monitored and shown to contain less than 5 ppm methyl bromide in the air space around and, when feasible, in the mass of the commodity. If less than 5 ppm methyl bromide is detected, the placard may be removed. However, if 5 ppm or greater methyl bromide is detected, the placard must be transferred with the commodity to the new site. Workers who transfer or handle incompletely aerated commodity must be informed and appropriate measures must be taken (i.e., ventilation or respiratory protection) to prevent exposures from exceeding 5 ppm or greater methyl bromide.



COASTAL MC-2R

Treatment Site	Rate <sup>a</sup> & Method <sup>b</sup>	Exposure Time
<u>Field Soils to be Planted to:</u>		
Asparagus, broccoli, cauliflower, eggplants, lettuce, muskmelons, onions (dry bulb), peppers, pineapples, strawberries, tomatoes	180-240 lb/A (IT) 0.4-0.55 lb/100 ft (RT)	24-48 hr. 24-48 hr.
Florida Citrus <sup>c</sup>	1-1.5 lb/100 sq. ft. (IT&RT) <sup>d</sup>	96 hr.
Citrus, vineyards and deciduous fruits and nuts <sup>c</sup>	400-870 lb/A (NTC) <sup>e</sup> (IT) 1-2 lb/100 sq. ft. (NTP)	7 days <sup>f</sup> 7 days <sup>f</sup>
<u>Nursery and Greenhouse Soils, Seed and Transplant Beds and Turf:</u>		
Non-food crops	180-435 lb/A (IT)	24-48 hr.
Non-food crops	0.4-0.55 lb/100 ft <sup>2</sup> (RT)	24-48 hr.
Tobacco	435-870 lbs/A (IT)	24-48 hr.
Tobacco	1-2 lbs/100 ft <sup>2</sup> (RT)	24-48 hr.
Tomato (Greenhouse Crop)	180-240 lb/A (IT)	24-48 hr.
Potting Mix:	1 lb/cu. yd. (RT)	24-48 hr.

<sup>a</sup>Use higher rates indicated for muck and heavy clay soils.

<sup>b</sup> Methods of application: IT = Injected with chisels plus covered with tarpaulin.

RT = Raised tarp with topical (surface) application.

NTC = Non-tarp chisel injection 24-30 inches deep

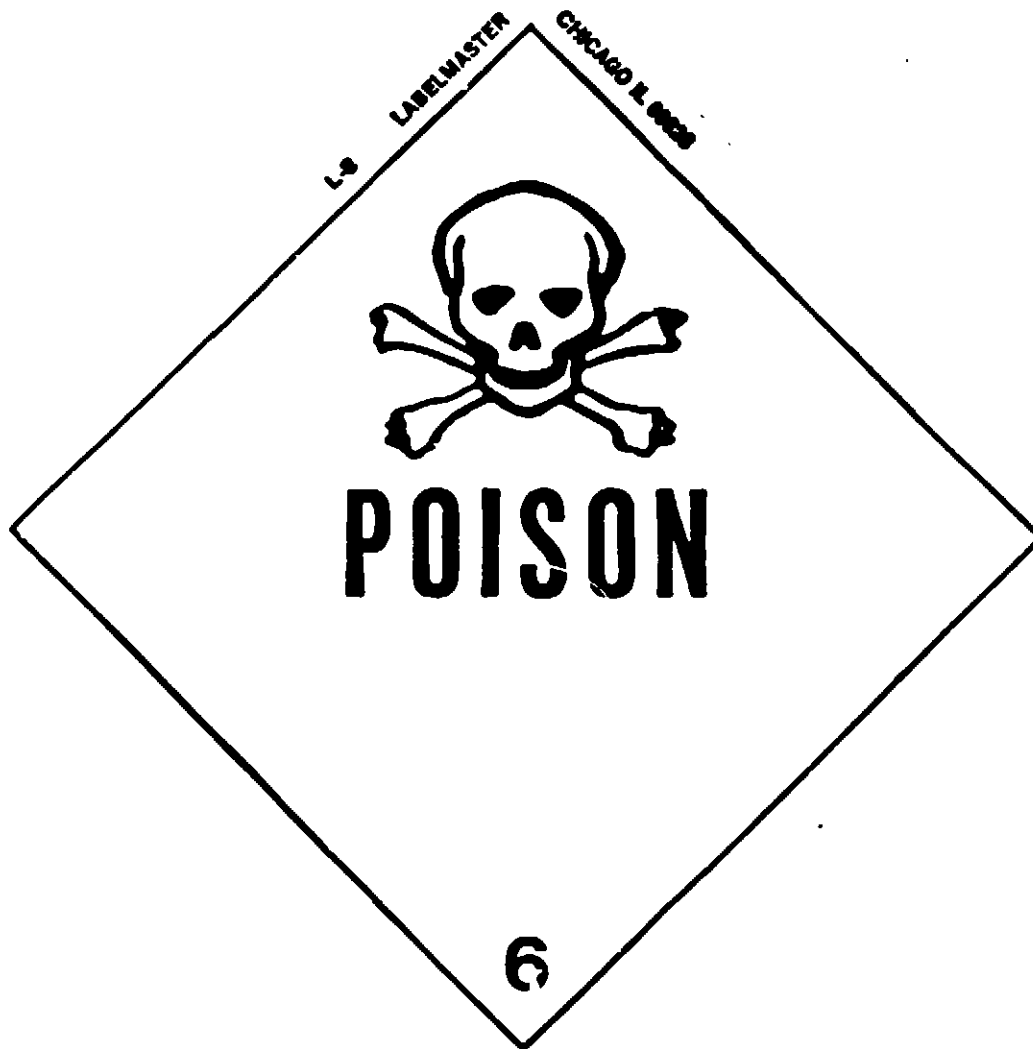
NTP = Non-tarp deep injection, auger-probe.

<sup>c</sup>May not bear harvestable fruit within 24 months.

<sup>d</sup>Also requires 4 mil tarp.

<sup>e</sup>Not for use in California for Armillaria control.

<sup>f</sup>For control of Armillaria; must use tarpaulin.



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**STATEMENT OF WARRANTY AND LIABILITY**

Seller warrants that this product complies with the specifications expressed in this label. SELLER MAKES NO OTHER WARRANTIES; AND DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE INTENDED PURPOSE. Seller's liability for default, breach, or failure under this label shall be limited to the amount of the purchase price. Seller shall have no liability for consequential damages.

Many pesticidal chemicals are poisonous and may leave a toxic residue on the plants to which they are applied. The U. S. Environmental Protection Agency has established maximum amounts of such pesticidal chemicals that may remain on raw agricultural products at harvest and it is the user's responsibility to see that there is no residue on such crops at harvest in excess of these amounts. The "Directions for Use" are based on the best available information, and if followed carefully should not leave excessive residues at harvest. However, Coastal Chemical Corporation assumes no responsibility as to their accuracy nor for any loss due to excessive residues.