

Use BROZONE soil fumigant for preplanting application in soil for control of nematodes, insects, and weeds in nurseries and in certain seed bed, plant bed and field crop areas. Typical pests controlled are nematodes such as root-knot lesion, dagger, stunt, spiral cyst formers, lance, sting pin and certain other species; insects such as wireworms and white grubs in the soil at time of treatment, and weeds such as chickweed, pigweed, nutgrass, crabgrass, goosegrass, crowfootgrass, barnyardgrass, purslane, morningglory and many other broadleaf and grass weeds. BROZONE will give excellent performance in fruit and forest tree, ornamental shrub and turf nurseries, in annual and perennial flower, tomato, tobacco, and strawberry seed and plant beds, in vegetable seed beds for production of transplants only, and in soil where strawberries and tomatoes are to be grown for food.

DIRECTIONS FOR APPLICATION AND PLANTING

WHEN TO TREAT: Treatments can be made in the spring, summer, or fall whenever soil conditions are suitable. In northern states, late summer or early fall treatments are best for land to be planted to early spring crops.

SOIL PREPARATION: To facilitate fumigant penetration, plant refuse should be worked into the soil and time allowed to decompose before treating. Soil must be in good workable seed bed condition, warm, preferably 50 to 80 F at a depth of five inches, with moisture adequate for good seed germination. Do not treat if the soil temperature is below 45 F at the five inch level. Pretreatment tillage to a depth of 12 to 18 inches often improves results, especially in heavy or muck soils.

APPLICATION: A special inexpensive chisel-type applicator is used to inject BROZONE soil fumigant about 5-8 inches into the soil. Due to the volatility of this fumigant, treated areas must be covered with polyethylene film or other suitable tarpaulin as soon as possible after application—preferably within 20 minutes. Lay film manually or with a mechanical tarp layer. BROZONE soil fumigant is toxic to plants. Therefore, do not apply to soil containing roots of desirable plants. The edges of the tarpaulin cover should be at least 18 inches away from the foliage drip-line of desirable plants.

Cylinders containing BROZONE are pressurized to expel the entire contents through metering orifices. No additional pressure is necessary for application of this fumigant.

EXPOSURE PERIOD AFTER APPLICATION

For soil temperatures above 60 F, leave the treated soil covered for at least 48 hours to insure maximum fumigant diffusion. For soil temperatures below 60 F, extend the exposure period to 3 or 4 days for best results. In all instances, best results are obtained from fall applications, where the covers are left on all winter.

DOSAGE RECOMMENDATIONS

Use BROZONE soil fumigant according to the following dosage table:

Use	Pounds/Acre
Seed and plant beds	
Tomato, tobacco, forest trees	500
Vegetables (for production of transplants only)	500
Strawberries and tomatoes (For fruit production*)	350
Nurseries	
Floral crops and turf	500
Woody perennials including fruit and forest trees, ornamentals	600

* When transplants are for fruit production, allow at least two weeks between field fumigation and planting.

Consult the following table to determine the proper pressures and orifice sizes required to deliver the desired dosage per acre. These calibrations are based on the use of 2 or more chisels spaced 12 inches apart.



Trademark

BROZONE[®] SOIL FUMIGANT

To Control Many Weeds, Grasses, Nematodes
And Insect Pests In Plant Beds And Nurseries

ACTIVE INGREDIENTS:

Methyl Bromide 68.6%

Chloropicrin 1.4%

INERT INGREDIENTS: Petroleum hydrocarbons 30.0%

BROZONE[®] Trademark of The Dow Chemical Company

EPA Reg. No. 3442-680

DANGER

KEEP OUT OF REACH OF CHILDREN
HIGHLY VOLATILE LIQUID
LIQUID MAY CAUSE BURNS
VAPORS MAY BE FATAL IF INHALED
Do Not Breathe Vapors • Keep Away from Heat
Do Not Get in Eyes or Skin on Clothing

POISON

SEND FOR A DOCTOR IMMEDIATELY IN CASE OF AN ACCIDENT

ANTIDOTE: No known antidote, treat symptomatically.

KEEP CHILDREN AND ANIMALS AWAY FROM PLOTS UNDER TREATMENT

DO NOT SPILL OR DISCHARGE CONTENTS OUTSIDE GROUND COVER. In case of equipment trouble or other emergency where high concentrations of vapor may be encountered, wear a full face gas mask fitted with a canister as approved by the U.S. Bureau of Mines for use with organic vapors.



Manufactured for
Agri-Chemicals
Division of United States Steel Corporation
P. O. Box 1005 Atlanta, Georgia

Use BROZONE soil fumigant to control and to prevent the invasion for control of nematodes, insects, and weeds in nurseries and in certain seed bed plant beds and in plantations. Typical insects controlled are nematodes, root-knot, root-lesion, root-rot, and stem-borer. Yellow termite, cane-cruncher, and other tree species, such as sawflies, white worms and white grubs, are also controlled. Weeds such as bluegrass, wild oats and white-grain grasses, crabgrass, goosegrass, lowfoot grass, barnyardgrass, juncos are controlled, and many other broadleaf and grass weeds. BROZONE will also control certain annual fruit and forest tree, ornamental shrub and herbaceous plants and perennial flower, tomato, potato and straw-berry seed and plant beds, and vegetable seed beds for production of transplants, and for strawberries and tomatoes, are to be grown for food.

DIRECTIONS FOR APPLICATION AND PLANTING

WHEN TO TREAT. Treatments can be made in the spring, summer, or fall, whenever soil conditions are suitable. In northern States, late summer or early fall treatments are best for annuals to be planted in early spring crops.

SOIL PREPARATION: To facilitate fumigant penetration, plant refuse should be worked into the soil and then allowed to decompose. Before treating, soil must be in good workable condition. Soil must be warm, preferably 50 to 60 F., by depth of five inches, with moisture adequate for good seed germination. Do not treat if the soil temperature is below 45 F. at the five-inch level. Pre-treatment to a depth of 12 to 18 inches often improves results, especially in heavy and hard soils.

APPLICATION. A special, flexible, soil-based type applicator is used to inject BROZONE soil fumigant about 5-8 inches into the soil. Due to the volatility of this fumigant, treated areas must be covered with polyethylene or other suitable tarpaulin as soon as possible after application, preferably within 20 minutes. Lay tarpaulin directly over a mechanical harrow. BROZONE soil fumigant is toxic to plants. Therefore, do not apply soil fumigant to roots of desirable plants. The edges of the tarpaulin covering should be at least 18 inches away from the fumigant line of application.

After the application of BROZONE, an appropriate time to expect the entire content to be vaporized is 4 to 6 weeks. In hot climates, this period may be shorter, depending on the amount of light.

EXPOSURE PERIOD AFTER APPLICATION

Exposure periods are given in hours below. The treated soil should be covered with a tarpaulin or other suitable covering for the entire exposure period. Exposure periods are given for 100 to 150 degrees Fahrenheit. For other temperatures, the exposure period should be increased or decreased proportionately. For example, for 120 degrees Fahrenheit, the exposure period should be increased 20%.

DOSAGE RECOMMENDATIONS

Use	Pounds per Acre
Seed and plant beds	10
Tomato, tobacco, forest trees	10
Vegetables (for production of transplants only)	10
Strawberries and tomatoes (for fruit production)	10
Nurseries	
Fruit trees and shrubs	10
Woody perennials (including fruit and forest tree nurseries)	10
Woody perennials (including fruit and forest tree nurseries) (in heavy soils)	15

Use the following table to determine the proper dosage rate for the sizes required to fumigate the desired plot size per acre. The concentrations are



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ACTIVE INGREDIENTS:

Methyl Bromide 68.6%

Chloropicrin 1.4%

INERT INGREDIENTS: Petroleum hydrocarbons 30.0%

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EPA Reg. No. 3442-680

SEND FOR A DOCTOR IMMEDIATELY IN CASE OF AN ACCIDENT

ANTIDOTE: No known antidote, treat symptomatically.

KEEP CHILDREN AND ANIMALS AWAY FROM PLOTS UNDER TREATMENT

DO NOT SPILL OR DISCHARGE CONTENTS OUTSIDE GROUND COVER

For more information, contact your local distributor or write to: Agri-Chemicals, Division of United States Steel Corporation, P. O. Box 1685, Atlanta, Georgia 30301



Manufactured for
Agri-Chemicals
Division of United States Steel Corporation
P. O. Box 1685 Atlanta, Georgia

DOSAGE CALIBRATION CHART

Dosage Pounds Per Acre	Tractor Speed			
	2 Miles Per Hour		3 Miles Per Hour	
	Orifice Diameter In Inches	Approximate Pressure psi	Orifice Diameter In Inches	Approximate Pressure psi
350	.043	31	.055	32
500	.055	30	.063	36
600	.055	38	.063	44

WHEN TO PLANT AFTER THE EXPOSURE PERIOD

Crops can usually be seeded 3 days after the cover is removed. For transplants aerate the soil 7 to 10 days prior to planting. NOTE: To avoid the possibility of exceeding bromide tolerances allow an aeration period of at least 2 weeks when transplants of strawberries and tomatoes for crop production are set in fumigated fields. If rains or soil temperatures below 60°F occur during aeration, delay seeding or planting until the soil is returned to a tillable condition with suitable moisture and temperature for good plant growth.

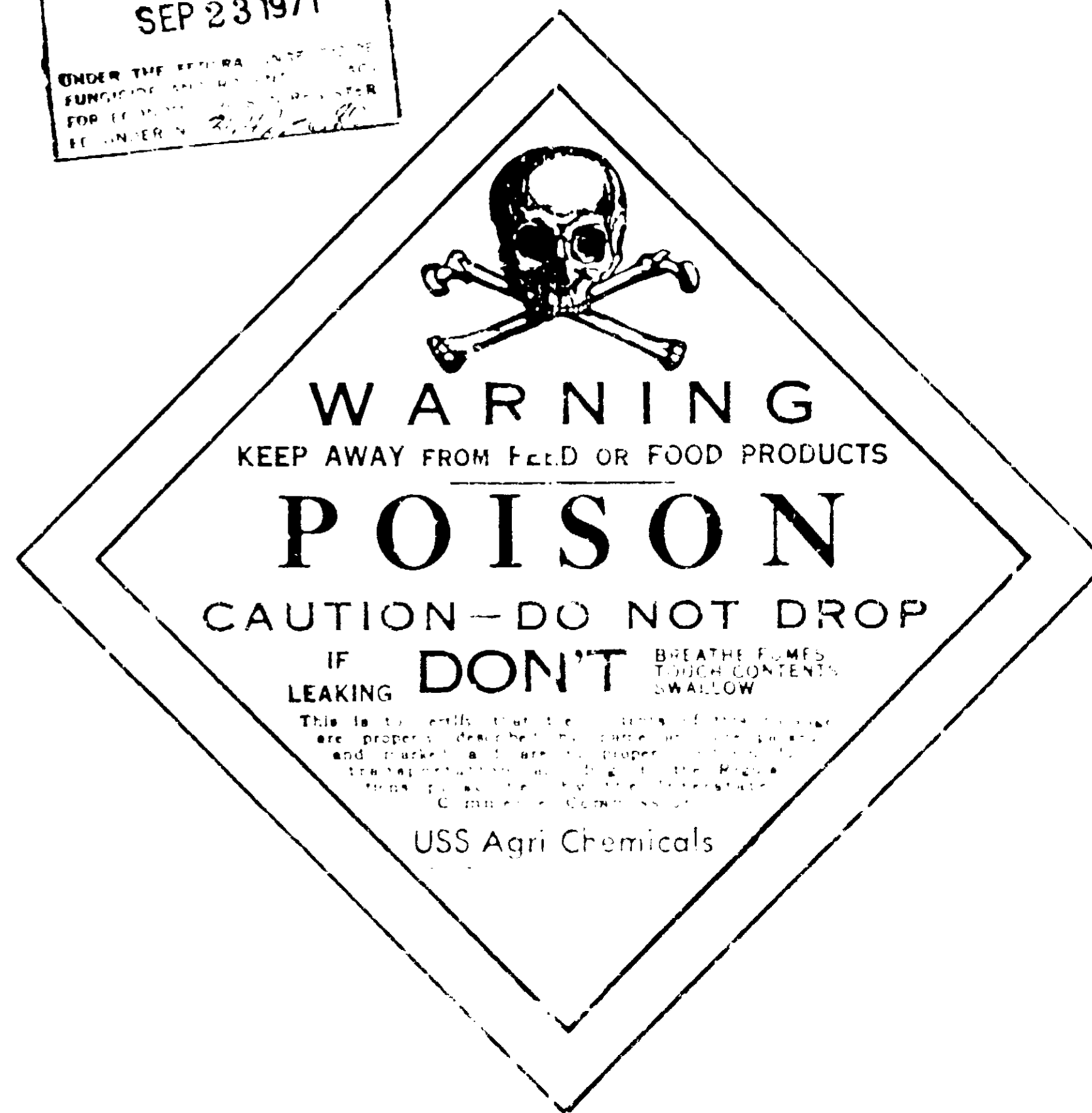
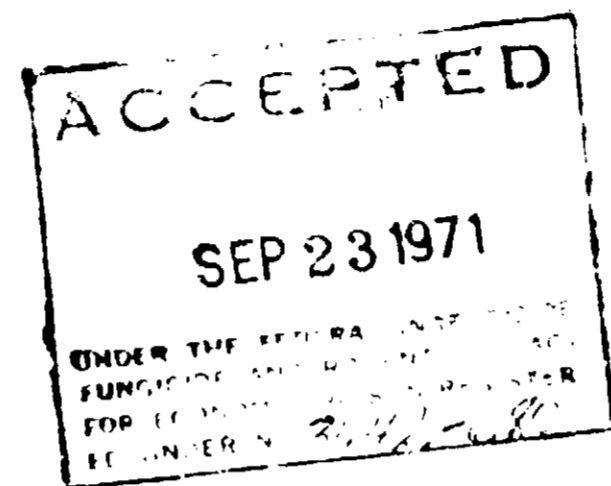
USE PRECAUTIONS

NOTE CAREFULLY: Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to plants, fertilize as indicated by plant nutrient tests made after fumigation. To avoid ammonia injury or nitrate starvation, or both, avoid using fertilizers containing ammonium soils and use only fertilizers containing nitrate nitrogen until after the crop is well established and the soil temperature is above 65 F. Certain crops are tolerant to ammonia therefore the above rule does not apply to them. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

Fumigation of soil may accentuate phosphate deficiency. Therefore, in soils low in available phosphorus, add and work into the soil 500 pounds of superphosphate per acre before fumigating.

Avoid reinfestation of treated soil. Do not walk from untreated area into treated areas. Do not use tools, equipment, transplants or crop remains infested with soil-borne plant parasitic pests and weed seeds in the fumigated areas. If the treated area is in a location where heavy rainfall may cause flooding or washing, plow a furrow or make trenches around the area to assure proper drainage away from the treated portion. Suitable wooden-frame barriers around the treated plant beds are also satisfactory for preventing this type of re-contamination.

DANGER: To avoid the possibility of exceeding bromide tolerances, food crops other than strawberries and tomatoes should not be grown to maturity in soil treated with BROZONE soil fumigant. Transplant such crops to untreated soil or to soil treated according to registered pesticide uses. Under certain conditions BROZONE soil fumigant may be severely corrosive to certain metals. Do not use containers or application equipment made of aluminum, magnesium, or their alloys. Clean application equipment immediately after use by flushing thoroughly with diesel oil or kerosene. Store BROZONE soil fumigant in tightly closed cylinders in a cool place away from fire, swellings and out of the reach of children.



**METHYL BROMIDE - CHLOROPICRIN
MIXTURE, LIQUID**

NOTICE: USS Agri-Chemicals can accept no responsibility for injury to persons or animals...

DOSAGE CALIBRATION CHART

Nozzle Model No. & Size	Factor Speed		Orifice Diameter Inches	Approximate Pressure psi
	Miles Per Hour	3 Miles Per Hour		
280	0.4	31	0.55	32
350	0.55	40	0.63	36
600	0.55	38	0.63	44

WHEN TO PLANT AFTER THE EXPOSURE PERIOD

Crops can usually be seeded 3 days after the cover is removed. For transplants aerate the soil 7 to 10 days prior to planting. NOTE: To avoid the possibility of exceeding bromide tolerances allow an aeration period of at least 2 weeks when transplants of strawberries and tomatoes for crop production are set in fumigated fields. If rains or soil temperatures below 60 F occur during aeration, delay seeding or planting until the soil is returned to friable condition with suitable moisture and temperature for good plant growth.

USE PRECAUTIONS

NOTE CAREFULLY: Fertilizers may temporarily raise the level of ammonia in the soil. This is most likely to occur when fertilizers are applied to soils that are either high in organic matter or after the soil has been recently fumigated. To avoid ammonia toxicity, do not use fertilizers containing urea or urea-ammonium salts containing urea after fumigation. Do not use fertilizers containing urea or urea-ammonium salts containing urea after fumigation if the soil temperature is above 65 F. Do not use fertilizers containing urea or urea-ammonium salts containing urea after fumigation if the soil temperature is above 65 F. Do not use fertilizers containing urea or urea-ammonium salts containing urea after fumigation if the soil temperature is above 65 F.

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**METHYL BROMIDE—CHLOROPICRIN
MIXTURE, LIQUID**

NOTICE: AgriChem, Inc. does not accept responsibility for injury to persons or animals or for loss or damage to crops, soil, or other property resulting from failure to observe cautions printed on the container.