

GENERAL INFORMATION

VORLEX-201 SOIL FUMIGANT is used as a preplant treatment in both field and greenhouse soils to be planted to ornamentals or flowers such as mums, lilies, gladioli, iris, carnations, evergreens, vegetables such as celery, lettuce, garden beets, tomatoes, eggplant, beans, melons, squash, field crops such as tobacco, cotton, potatoes, onions, mint, small fruits such as strawberries, raspberries, fruit trees such as cherry, peach, citrus trees such as orange, lemon.

In the soil, Vorlex-201 vaporizes and diffuses helping to control plant parasitic nematodes and harmful fungi (including *Fusarium oxysporum* f. *copersleyi*, race 2) causing damping-off, root-rot and wilt. Vorlex-201 also helps control soil insects such as wireworms, symphylids and others. Vorlex-201 helps control weeds such as pigweed, sanderson, lambsquarters, bermudagrass, purslane, crabgrass, quackgrass, soursue, fleabane, sedge, chickweed, ragweed, mustard, Poa spp, smartweed, wild radish, dodder, velvetleaf and shepherds purse.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE

DO NOT USE, POUR, SPILL, OR STORE NEAR HEAT OR OPEN FLAME. DO NOT CUT OR WELD CONTAINER.

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 by cleaning of equipment or disposal of wastes.

HANDLING PRECAUTIONS

DO NOT INHALE VAPORS.—NIOSH- or MESA-approved respiratory protection should be worn when VORLEX-201 liquid soil fumigant is exposed to the atmosphere or when conducting operations which vent to the atmosphere. A NIOSH- or MESA-approved half-face respirator with chemical worker's goggles or full-face respirators shall be used during small soils, repairs, calibrations, transfers, sampling and when working in poorly ventilated areas. When in use canisters or cartridges shall be replaced daily or sooner if specified by manufacturer or at first sign of odor breakthrough, whichever comes first. NIOSH-approved cartridges, such as a WILLSON P2, will be adequate for short-term situations such as listed above.

Where very high concentrations of vapors might be expected (such as large soils in poorly ventilated areas), a self-contained or air-supplied respirator should be used.

DO NOT GET ON SKIN.—When handling or working with VORLEX-201, wear clean body covering including gloves and heavy footwear. Immediately remove contaminated coverings. Aerate and wash all protective clothing and gear thoroughly after use.

There are no protective clothing materials that are completely impervious. Thin layers of polyethylene (minimum 1 mil) give short-term protection and shall be immediately discarded upon contamination. Heavy (3-mil) polyethylene provides longer term protection. Leather gives no protection. If gear becomes contaminated, immediately wash with soap and water. Never wear protective gear having odor of VORLEX-201. Wash and aerate all protective gear thoroughly after use until all odor is gone.

DO NOT GET IN EYES.—Wear eye protection such as chemical worker's goggles or full-face respirator when handling VORLEX-201.

DO NOT SWALLOW.—Do not use the mouth to siphon VORLEX-201 from containers or to blow out clogged lines, nozzles, etc.

STORAGE, SHIPMENT AND DISPOSAL

STORAGE.—Store in tight, closed original container in a cool place away from dwellings. Do not allow contamination of seeds, plants, fertilizers, or other pesticide chemicals. Do not contaminate food, feedstuffs, drugs, or domestic water supplies. In outside storage, store drums (make sure that bungs are tightly closed) on sides to avoid accumulation of rain water in top or bottom of recessed areas.

SHIPMENT.—Do not ship or store with food, feeds, drugs, or clothing.

DISPOSAL.—Rinse equipment and containers and dispose of wastes, including spills or residues, in a landfill approved for pesticides or by burying in non-crop lands away from domestic water supplies. Punch holes in containers before disposal. Dispose of empty containers in approved landfill or bury in safe place. Consult Federal, State or local disposal authorities for approved alternative procedures.

DO NOT REUSE ORIGINAL CONTAINERS

IMPORTANT: READ BEFORE PURCHASE OR USE

Purchase or use of this product shall constitute acceptance of the following terms of sale. NCR-AM Agricultural Products, Inc. (NCR-AM) warrants that this product conforms to the chemical descriptions on this label and is reasonably fit for the purposes specified hereon. By way of limitation but not in derogation of the directions and statements printed on this label, Seller makes no warranty and no representation and NCR-AM makes no further warranty or representation, expressed or implied, including but not limited to any warranty as to MERCHANTABILITY, and no agent of NCR-AM is authorized to do so except in writing, with a specified reference to the foregoing warranty. Since neither Seller nor NCR-AM has any control over the handling, storage, use or conditions of use of this product, Buyer or user assumes all risks and liability arising from handling, storage or use of this product under abnormal conditions or not in strict compliance with the directions and precautionary statements hereon. All claims related to the purchase, handling, storage or use of this product shall be barred unless written notice is given to NCR-AM within 30 days after the loss is discovered. Liability of the Seller or NCR-AM for any damages arising from a breach of this warranty shall be limited to exclude consequential commercial damages.

RESTRICTED

Vorlex

SOIL FUMIGANT

EPA Registration

ACTIVE INGREDIENTS: 100%

Chlorinated C, hydrocarbons, including
dichloropropane and related compounds
Methyl isothiocyanate
Chlorosulfonil

KEEP OUT OF REACH OF CHILDREN



DANGER

PRECAUTIONARY

HAZARDS TO HUMANS & DOMESTIC ANIMALS

HAZARDOUS VAPOR AND LIQUID MAY BE ABSORBED THROUGH SKIN. CAUSES BLINDNESS AND LIVER DAMAGE.

Do Not Breathe Vapor. Do Not Get in Eyes. On Skin Only with Adequate Ventilation. Wear Eye and Skin Protection. Wash Thoroughly After Handling.

If protective gear, such as boots or gloves, becomes contaminated, never wear protective gear having the odor of Vorlex-201. Use until all odor is gone. Render unusable and dispose.

STATEMENT OF PRACTICE

IF INHALED: Remove to fresh air. If not breathing, give artificial respiration. Give oxygen. Call a physician.

IF ON SKIN: Immediately flush skin with plenty of water for at least 15 minutes. Call a physician. If water is not immediately available, use as little of dry soil as possible to remove the product, then proceed at once to location where plenty of water is available. Call a physician.

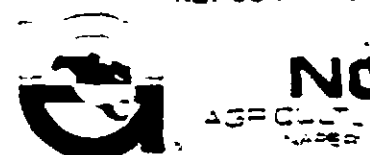
IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Continue treatment with ophthalmic hydro-cortisone.

IF SWALLOWED: Immediately induce vomiting by giving 1 to 2 teaspoons of 3% hydrogen peroxide solution. Never give anything by mouth to an unconscious person.

SEE LEFT PANEL FOR ADDITIONAL INFORMATION

PROTECTED BY U.S. PAT. NO. 3,100,000

NET CONTENTS



plants to be planted to
is celery, lettuce, gar-
lics, onions, mint, small
lemon

harmful fungi (including
control soil insect,
billion lambsquarters
mustard, Poa spp.

CONTAINER

body of water. Do not

be worn when
which vent to the
s or full-face res-
working in poorly
shed by manufac-
turers, such as a

entilated areas).

evening including
all protective

of polyethylene
ation Heavy (3-
s contaminated.
Wash and aerate

respirator when

ow out clogged

s. Do not allow
ood, feedstuffs,
untly closed on

tes in a landfill
Punch holes in
place. Consult

SE

gricultural Products
reasonably fit for the
s printed on this label
ation expressed or
s authorized to do so
has any control over
advertising from
the directions and
duct shall be barred
e or NOR-AM for any
amages

March 1974



RESTRICTED USE PESTICIDE

Vorlex 201

SOIL FUMIGANT

E.P.A. Registration No. 2139-76

ACTIVE INGREDIENTS: 100%

Chlorinated C, hydrocarbons, including dichloropropenes,

dichloropropene and related chlorinated hydrocarbons

Methyl isothiocyanate

Chloropicrin

65%

17%

15%

100%

**KEEP OUT OF
REACH OF CHILDREN**



DANGER - POISON



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

HAZARDOUS VAPOR AND LIQUID MAY BE FATAL IF INHALED SWALLOWED

OR ABSORBED THROUGH SKIN CAUSES BURNS OF SKIN AND EYES MAY PRO-

DUCE KIDNEY AND LIVER DAMAGE UPON PROLONGED EXPOSURE

Do Not Breathe Vapor Do Not Get In Eyes On Skin Or On Clothing Do Not Take Internally Use

Only With Adequate Ventilation Wear Eye And Skin Protection Necessary To Prevent Contact When

Handling Wash Thoroughly After Handling And Before Eating Or Smoking

If protective gear such as boots or gloves becomes contaminated immediately wash with soap and water

Never wear protective gear having the odor of Vorlex 201. Aerate and wash all protective gear thoroughly after

use until all odor is gone. Render unusable and dispose of contaminated leather goods including shoes

STATEMENT OF PRACTICAL TREATMENT

IF INHALED Remove to fresh air. If not breathing, give artificial respiration preferably mouth-to-mouth. If breathing is dif-

ficult give oxygen. Call a physician

IF ON SKIN Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and

shoes. Call a physician. If water is not immediately available remove excess chemical from skin with sorbent material such

as towel or dry cloth then proceed at once to location where water is available and thoroughly wash contaminated skin with

plenty of water. Call a physician

IF IN EYES Immediately flush eyes with plenty of water for at least 15 minutes. Call a

physician. Continue treatment with ophthalmic hydrocortisone ointment

IF SWALLOWED Immediately induce vomiting by giving two glasses of water and sticking finger down throat. Call a physi-

cian. Never give anything by mouth to an unconscious person

SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONS

PROTECTED BY U.S. PAT. NOS. 3,005,123; 3,130,813; 3,240,566; 3,255,561

NET CONTENTS 30 GALLONS



NOR-AM.

Chemical Corporation, Inc.
P.O. Box 1000, St. Louis, Mo. 63101

DIRECTIONS

USE PRECAUTIONS As with most soil fumigants, apply

nitrogen and soluble salts in the soil which may result in plant

or fumigant are applied to soils that are either cold, wet, and

Do not add fertilizers containing ammonia or ammonium

fumigant. Use only fertilizers containing nitrates until the

Do not allow liquid or vapors to come in contact with

roots of desirable plants extend

Do not use in greenhouse which contain living plants

Do not fumigate if the soil temperature at 3 inch depths

Avoid reinfestation of treated soil. Do not contaminate

which could carry soil-borne pests from infested land. Clear

VORLEX-201 may be corrosive under certain conditions

use. DO NOT USE WATER. Do not use containers or equip-

tightly

TIME OF APPLICATION Treatment can be made at any time

crops which are planted early in the spring

PREPARATION OF SOIL For optimum control with VQ

remains into the soil so that they are well decomposed before

of the root system as possible. (3) Break up all clods and

Deep tillage is recommended, particularly for deep-rooted

(4) Keep soil moist from the surface to a depth of six inches

DO NOT FUMIGATE DRY SOILS

APPLICATION AND DOSAGE Use injection type applicator

treatment set shanks 8" apart. Inject at a depth of 6" to 8"

DOSAGE

Pest	Soil Type	Rate (lb/acre)
Nematodes	Mineral	2
Nematodes	Organic (Muck)	12
Weeds, fungi, nematodes and soil insects	Mineral	2
Weeds, fungi, nematodes and soil insects	Organic (Muck)	4
Fusarium oxysporum f. lycopersici race 2	Mineral	

The above rates are for nematodes and soil insects only. For weeds and fungi, use the higher dosage indicated. Consult your dealer

1. For best weed control, use the higher dosages indicated. Inject at 4 inch depth

2. Vorlex 201 is used in heavy clay soils. An extended aeration period may be

3. For cereals and other forage crops where deep penetration is desirable, use

4. When the above is applied as a pre-plant treatment without using plant

materials, use 1 lb. of contaminated equipment to protect plant material, etc.

IMMEDIATELY after application, drag the soil to remove this

required, apply only the amount necessary to wet the soil to a

be effective

In soils 70 F or higher at 6" depth, special attention should

best see

FUMIGATION PERIOD After application at soil temperature

of 4 days. 7 days is preferable. Use a shorter fumigation per-

Colder soils require a longer fumigation period. If the

fumigation period depending upon the temperature

In fall or winter application the fumigation period should

period

AERATION PERIOD FOR SOIL TEMPERATURES ABOVE 60 F

by cultivation e.g. discing. Repeated cultivation will aid re-

occur during the fumigation period. If soil crusting occurs

may be necessary to prevent soil crusting

Aerate until the fumigant has completely escaped from

between cultivation (end of fumigation period) and planting

FOR SOIL TEMPERATURES BELOW 60 F AT 6" DEP-

required. Repeated deep cultivation is especially important

tures, since these conditions retard aeration

DO NOT PLANT WHEN THE ODOR OF THE FUMIGANT IS ST

DO NOT RE-USE

E.P.A. EST. NO. 08600 IL 1

AC

USE PESTICIDE x 201 MIGANT

on No 2139 76

using dichloropropene, 60%
chlorinated hydrocarbons 17%
15%
100%

OUT OF
CHILDREN
- POISON

STATEMENTS
& DOMESTIC ANIMALS
FATAL IF INHALED, SWALLOWED
BURNS OF SKIN AND EYES. MAY PRO-
LONGED EXPOSURE
Or On Clothing. Do Not Take Internally. Use
Protection Necessary To Prevent Contact When
ing And Before Eating Or Smoking.
contaminated, immediately wash with soap and water
Aerate and wash all protective gear thoroughly after
use of contaminated leather goods, including shoes

ITICAL TREATMENT
respiration, preferably mouth-to-mouth if breathing is dif-
fast 15 minutes while removing contaminated clothing and
move excess chemical from skin with sorbent material such
ter is available and thoroughly wash contaminated skin with
olution of sodium bicarbonate for at least 15 minutes. call a
ment
isses of water and sticking finger down throat. Call a phys-

DITIONAL PRECAUTIONS
113 908-3 240 566-3, 255 561
30 GALLONS

OR-AM.
RAL PRODUCTS, INC
LE, CINCINNATI 50566

DIRECTIONS FOR USE:

USE PRECAUTIONS As with most soil fumigants, application of VORLEX-201 may temporarily raise the level of ammonia nitrogen and soluble salts in the soil which may result in plant injury. This is most likely to occur when heavy rates of fertilizer or fumigant are applied to soils that are either cold, wet, acid or high in organic matter.

Do not add fertilizers containing ammonia or ammonium salts or undecomposed manure to the soil at or near the time of fumigation. Use only fertilizers containing nitrates until the soil temperature is above 65 F and the crop is well established.

Do not allow liquid or vapors to come in contact with lawn and desirable plants; do not apply on areas beneath which roots of desirable plants extend.

Do not use in greenhouse which contain living plants.

Do not fumigate if the soil temperature at 3 inch depths is over 90°F.

Avoid reinfestation of treated soil. Do not contaminate treated soil with untreated soil. Do not use transplants or tools which could carry soil-borne pests from infested land. Clean equipment carefully before using.

VORLEX-201 may be corrosive under certain conditions. Flush all applicators with fuel oil or kerosene immediately after use. DO NOT USE WATER. Do not use containers or equipment of aluminum, magnesium or their alloys. Close containers tightly.

TIME OF APPLICATION Treatment can be made at any time the soil is workable, fall or winter application is desirable for crops which are planted early in the spring.

PREPARATION OF SOIL For OPTIMUM CONTROL WITH VORLEX-201 FOLLOW THESE STEPS CAREFULLY (1) Work crop remaining into the soil so that they are well decomposed before treatment. (2) In shrub and tree replant sites remove as much of the root system as possible. (3) Break up all clods and loosen soil thoroughly by cultivation one week before treatment. Deep tillage is recommended, particularly for deep-rooted crops. Always work soil deeper than intended application depth. (4) Keep soil moist from the surface to a depth of six inches and maintain in this condition for one week before fumigation. DO NOT FUMIGATE DRY SOILS.

APPLICATION AND DOSAGE Use injection type applicators. For broadcast application, set shanks 6" to 8" apart; for band treatment, set shanks 8" apart, inject at a depth of 6 to 8".

DOSAGE:

Pest	Soil Type	Overall (Broadcast) Application		Row or Band (8" centers) Application
		per acre	per 100 sq. ft.	per chisel per 100 linear ft.
Nematodes	Mineral	7-15 gal	2-4 1/2 fl. oz.	40-87 ml.
Nematodes	Organic (Muck)	10-25 gal	3-7 1/2 fl. oz.	58-145 ml.
Weeds, fungi, nematodes and soil insects	Mineral	25-50 gal *	7 1/2-14 1/2 fl. oz.	145-290 ml *
Weeds, fungi, nematodes and soil insects	Organic (Muck)	40-60 gal	11 1/2-17 1/2 fl. oz.	232-348 ml.
Fusarium oxysporum f. lycopersici race 2	Mineral	35 gal	10 1/2 fl. oz.	203 ml *

*The above recommendations are very general and are not intended to replace local recommendations. Consult your local agricultural authority for regional recommendations.

1. For best weed control, use the higher dosages indicated, inject at 6 inch depth and cover with tarp for 4 days.

2. At times 20-30 gal. used in heavy clay soils, an extended aeration period may be required.

3. For cereals and other orchard trees on the deep penetration is desirable. Use 60-75 gallons per acre of Vorlex 201 (17 1/2-20 1/2 fl. oz. per 100 sq. ft.).

4. When Vorlex 201 is applied as a pre-plant treatment without using plastic, cover it is especially important to prevent re-infestation of the treated area with untreated soil. Contaminated equipment, infected plant material, etc.

IMMEDIATELY after application, drag the soil to remove chisel marks, then firm it with a smooth roller. If additional water is required, apply only the amount necessary to wet the soil to a depth of one-half inch. If a tarp seal is used, lower dosages may be effective.

In soils 70 F or higher at 6" depth, special attention should be given to sealing the surface of the soil. Tarping gives the best seal.

FUMIGATION PERIOD After application at soil temperature of 60 F or above, keep soil moist and undisturbed for a minimum of 4 days. 7 days is preferable. Use a shorter fumigation period if it has been shown effective.

Colder soils require a longer fumigation period. If these conditions occur, allow at least one to three weeks for the fumigation period depending upon the temperature.

In fall or winter application the fumigation period should extend until spring. The soil should be undisturbed during this period.

AERATION PERIOD FOR SOIL TEMPERATURES ABOVE 60°F (AT 6" DEPTH), aerate soil at the end of the fumigation period by cultivation e.g. disking. Repeated cultivation will aid release of the fumigant and is especially desirable if heavy rains occur during the fumigation period. If soil crusting occurs, it retards aeration and must be broken up. Repeated cultivation may be necessary to prevent soil crusting.

Aerate until the fumigant has completely escaped from the soil. This is usually accomplished by allowing one week between cultivation and end of fumigation period, and planting for each 12 gallons per acre of Vorlex-201.

FOR SOIL TEMPERATURES BELOW 60°F (AT 6" DEPTH), longer aeration periods than those mentioned above will be required. Repeated deep cultivation is especially important when heavy rains or very wet soil accompany low soil temperatures, since these conditions retard aeration.

DO NOT PLANT WHEN THE ODOR OF THE FUMIGANT IS STILL DETECTABLE.

DO NOT RE-USE CONTAINER

ACCEPTED
NOV 10 1983
The Federal Insect
and Plant Quarantine
U.S. Dept. of Agriculture

Printed in the U.S.A.