Item ID Number	05196	☐ **Not Scanned**
Author		
Corporate Author	United States of America, Environmental Protection Age	
Report/Article Title	Response of Registrant The Dow Chemical Company to the Statement of Issues	
Journal/Book Title		
Year	1973	
Month/Day	August 21	
Color	☐	
Number of Images	0	
Descripton Notes	In re: 2,4,5-Trichlorophenoxyacetic Acid; I. F. & R Docket No. 295 and I. F. & R. Docket Nos. 42, 44, 45, and 48; Also included is a certificate of service and Exhibit A materials.	

Rec'd OCT 5, 73
10/3/73 Hrg Atty

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE ADMINISTRATOR

In re: 2,4,5-Trichlorophenoxyacetic Acid	))	I. F. & R. Docket No. 295 and I. F. & R. Docket Nos. 42, 44, 45 and 48

RESPONSE OF REGISTRANT THE DOW CHEMICAL COMPANY TO THE STATEMENT OF ISSUES

Registrant The Dow Chemical Company ("DOW"), for its written Response to the Statement of Issues of Respondent Assistant Administrator for Hazardous Materials Control, published July 24, 1973 (38 Federal Register 19859-60), by its Hearing attorneys, Kaye, Scholer, Fierman, Hays & Handler, avers as follows:

1. DOW wishes to become a party to the Hearing called by the Assistant Administrator.

2. DOW's position with respect to the issues specified in the Statement is as follows:

I. The 2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T) products presently registered comply with the provisions of the Federal Insecticide, Fungicide and Rodenticide Act, as amended.

II. 2,4,5-T will perform its intended function without unreasonable adverse effects on the environment.

III. When used in accordance with widespread and commonly recognized practice, 2,4,5-T does not generally cause unreasonable adverse effects on the environment, as defined by the Federal Insecticide, Fungicide and Rodenticide Act, as amended.

IV. The registrations of 2,4,5-T should not be cancelled or any classification changed.

3. DOW's interest is as follows:

A. As a Registrant in this Docket.

B. As a Registrant in Consolidated Docket Nos. 42, 44, 45 and 48, some of the issues in which are similar to those to be considered in this Docket, and which may be consolidated with this Docket (See Paragraphs 5-12 below).

C. As a citizen and member of the public, with an interest in the responsible determination of environmental issues and standing to participate at least equal to that of Harrison Wellford, et al., who have previously requested that they be made parties to any hearings to be conducted in regard to 2,4,5-T (See Order of Chief Hearing Examiner filed June 9, 1972, denying such persons leave to intervene in Consolidated Docket Nos. 42, 44, 45 and 48).

Harrison Wellford, speaking for some of those opposing the registration of 2,4,5-T, has testified that

> "The banning of 2,4,5-T is becoming the Dreyfus case of pesticide regulation. Judging from the bitter public debate by scientists on different sides of the issue, it is clear that much more is at stake than the fate of a single herbicide....The significance of the 2,4,5-T case transcends its economic utility and possibly even its potential health effects. 2,4,5-T has become a battleground of opposing philosophies about the relationship between a technological risk and human safety....At stake is the question of who is to set the standards upon which the proposed safety of a pesticide (or any chemical) is to be judged."

As a result of such testimony, supplemented by press releases, public statements and otherwise, the

EPA Administrator has been subjected to tremendous pressures to suspend or cancel registrations, not necessarily based on scientific evidence. The opposition announced by Wellford, et al., has indeed already once been the subject of judicial action with respect to 2,4,5-T itself (Wellford v. Ruckelshaus, 439 F.2d 598 [D.C. Cir. 1971]), and of at least three judicial actions with respect to other pesticides (EDF v. EPA, 465 F.2d 528 [D.C.Cir. 1972], EDF v. Ruckelshaus, 439 F.2d 584 [D.C.Cir. 1971] and EDF v. Hardin, 428 F.2d 1093 [D.C.Cir. 1970]).

DOW believes that environmental issues must be determined in accordance with a rule of reason and on the basis of fact, logic, scientific evaluation and reason rather than emotion, passion and prejudice. It desires to participate in the Hearing in this matter in order to protect its and society's right to such a determination. Countervailing forces must be applied to areas which have been subject to overwhelming emotional pressures of only one kind, so that the environmental pendulum will be swung from environmental extremism to reasoned center and we may all move forward constructively to deal with the major tasks at hand.

It seems abundantly clear from the above testimony and the overall history of this proceeding, that the 2,4,5-T Hearing will involve two separate and distinct sets of issues. The first set is very much the same as those involved in the burgeoning number of other litigations involving environmental matters, such as in the DDT and Storm King cases. It addresses the evidence bearing directly on whether or not the herbicide 2,4,5-T should be used in a number of specific applications, with an ultimate evaluation of the risks and benefits from use and the risks and benefits from non-use. The resolution of these issues is of great importance, but to limited groups and geographical areas, such as, for example, with regard to the use by farmers of 2,4,5-T on rice in the Mississippi/Arkansas Delta.

The second set of issues is far more broad and pervasive and seeks to obtain guidance with respect to one of the vital issues of our times -- how to obtain time to survive in reasonable fashion on this planet while we solve the problems of an ever-increasing population and rapidly depleting resources. Briefly stated, this second set of issues addresses the theoretical considerations to be employed in solving the environmental risk/benefit equation.

To this point a highly visible and vocal segment of society, composed of environmental extremists, has been demanding that there be "no risk" in the use of new scientific or industrial measures. In the toxicological area this translates to an insistence that there be "no effect" resulting from dosage levels which are absurdly higher than any expected exposure to humans. The "no risk" and "no effect" arguments have initial and superficial emotional appeal, because any contrary position necessarily seems to accept some degree of risk to life or health. To the public those cast in the apparent role of advocating such a risk seem to be inhuman and worse. Little wonder that so many of those who advocate the rule of reason approach, largely scientists, refuse to enter the fray.

But in truth, of course, the "no risk" theory is invalid. There simply is no such thing as "no risk" in this life; all action(or even inaction) involves some risk, and the proper issue must be whether the benefits outweigh the risks. Indeed, in some cases, the acceptable risk may even be substantial if measured on an absolute basis. Thus, for example, statistics prove beyond any peradventure of doubt that the licensing of automobiles in this country necessarily means many thousands of vehicle deaths every year. Yet the prohibition of vehicular traffic would certainly mean even greater harm by virtue of being unable to get to a hospital or by emergency drugs undelivered, to say nothing of the untold other adverse consequences to life as we know it. Riding in an airplane from Los Angeles to Washington has

many benefits, but necessarily results not only in some risk of injury by air accident, but of cosmic radiation which is several multiples of that created by a properly designed and licensed nuclear power plant. Similarly, it may not be possible to prove beyond question that the use of pesticides or fertilizers or mechanical equipment in the production of agricultural products can have no negative effects, but the need to feed our country and the world more than counterbalances the strictly speculative and hypothetical areas of concern which have been identified. The same need to balance possible risks and benefits is equally true of other non-agricultural advances.

Certainly the vast majority of the scientific community acknowledges and accepts these precepts. But a part of the public at large remains in ignorance. And in major degree such lack of information and understanding must be deemed a direct result of the scientific community's failure to enter the battle in cases such as this one and oppose environmental extremism with fact and logic. Reluctance to testify under oath, subject to the withering and sometimes unfair cross examination of antagonistic and extremist adversaries, is certainly understandable. Science and scientists

necessarily thrive in the laboratory, where study, analysis and debate can be conducted on the basis of fact and reason rather than emotion. But in contrast to the isolation on which pure science thrives, we live in a world where a public, made up very largely of non-scientists, must and should have the power to make decisions in these important matters affecting so many lives. That public needs the leadership and guidance of the scientific community if its decisions are to be valid ones.

DOW believes that the time has come when the environmental rule of reason advocates must meet head-on those advocating environmental extremism, and clash directly with respect to the manner in which the risk/benefit equation is to be resolved. Our country's and the world's desperate need for plentiful food at reasonable cost demands as much. The use of 2,4,5-T is already limited, and its total dollar sales are of relatively minor value compared to the costs and burdens of a proceeding such as this one. Yet any contrary decision to yield to environmental extremism would also ignore the rights and interests of thousands of small rice farmers and cattlemen, and others to whom 2,4,5-T represents the safest herbicide which controls certain noxious

weeds without harming human life or wildlife, or cotton, soybeans and other crops. It would mean that industry's efforts would be limited to product uses large enough in dollar volume to sustain the huge cost of defeating irresponsibility -- thereby abandoning smaller volume products such as rice (or with respect to drugs, the attack on rare diseases) where anticipated sales cannot justify the expense. Finally, such a decision to yield to environmental extremism would be an abdication of responsibility to fight for what DOW knows must be done if the effort to eliminate hunger, poverty and pollution and enhance the overall quality of human life is to advance.

DOW believes that with respect to the second set of broad decision-balancing issues, the 2,4,5-T case must marshall the intellectual power and spirit of the leaders of every significant applicable area of science. Although some of those persons may have little information about 2,4,5-T, they will be experts in their own fields and will be able to speak with authority and conviction about the ways in which scientific risk/benefit decisions are, should and must be made: There is never "no risk"; there are always factors to be evaluated on each side of the equation; and the only proper way in

which the equation can be solved is by quantifying all of these factors with as much specificity and precision as possible, and then pursuing that course of action which appears as a consequence to be in the best interests of society as a whole.

The 2,4,5-T case is one of the most important cases of our times. DOW's third and most important interest in participating, is so that it may help marshall the forces in opposition to environmental extremism and bring reason and balance into the picture. Its ultimate objective is that the EPA Administrator will be permitted to decide this and other cases on the basis of the evidence, irrespective of and despite the efforts of those seeking to render the assignment difficult and unpopular. In this fashion he will be able properly to perform the duties imposed upon him by law.

4. The registration numbers of the pesticides for which DOW is Registrant, copies of the currently accepted labeling and a list of the currently registered uses of said pesticides, are set forth in Exhibit "A" annexed hereto and made a part hereof. There are no other uses proposed by DOW at this time.

CONSOLIDATION

5. The Assistant Administrator for Hazardous Materials Control, Respondent herein and in the earlier Consolidated Docket, has expressed his

> "intention that the public hearing concerning the use on rice, (I. F. & R. Consolidated Docket Nos. 42, 44, 45 & 48) be consolidated with the hearing I have called today for all other uses and that all hearings commence in April, 1974. The start of the hearing is being delayed until then to permit the Agency to complete an environmental and human monitoring project on the presence of the tetrachlorodioxin impurity found in 2,4,5-T and the extent to which the dioxin may adversely affect human and animal health."

6. Respondent Assistant Administrator does not have the power to consolidate with I. F. & R. Consolidated Docket Nos. 42, 44, 45 and 48, nor to fix the hearing date. (See Title 40, Code of Federal Regulations, §§ 164.20[c], 164.32, 164.40[c] and [d], and 164.50[10] and [11].) However, except and to the extent that it may prejudice the earlier Consolidated Docket by requiring a further adjournment in that Docket beyond April, 1974, DOW does not object to such consolidation.

7. By Orders of the United States Court of Appeals for the Eighth Circuit and the District Court for the District of Arkansas, at Respondent's application the issues in the Consolidated Docket are those defined by the Administrator's Orders of August 6, 1971, November 4, 1971, and April 13, 1972. DOW's Preliminary Prehearing Memorandum, Motion, Statement, Requests to Admit, and Interrogatories in the Consolidated Docket were served June 26, 1972, and are addressed to those issues alone. No action has been taken on those applications nor has any response yet been received. As soon as those and other prehearing matters have been disposed of, Hearing in the Consolidated Docket can and should proceed.

8. However, this new Docket No. 295 adds a number of additional and new issues to those in the Consolidated Docket. The Assistant Administrator has already stated that "[t]he start of the hearing is being delayed until then [April] to permit the Agency to complete an environmental and human monitoring project". Depending on the nature of the new inquiry, it may be

that DOW will not be able to complete its scientific studies by April, 1974, in which event it would oppose consolidation so that Hearing in the earlier Consolidated Docket may proceed on the already formulated issues.

9. The 2,4,5-T Scientific Advisory Committee which reported in May, 1971, and the Administrator in his three earlier Orders dated August 6 and November 4, 1971, and April 13, 1972, fully considered all of the then existing evidence with respect to 2,4,5-T. The only issues and areas of concern and inquiry are those set forth in the Administrator's three Orders. Any new area of concern sufficient to authorize the Administrator to call an additional Hearing to determine whether or not a further 2,4,5-T registration should be cancelled or its classification changed, must by law be such as to make it appear to the Administrator that the "pesticide or its labeling or other material required to be submitted does not comply with the provisions of[the Federal Insecticide, Fungicide and Rodenticide Act, as amended], or, when used in accordance with widespread and commonly accepted practice, generally causes unreasonable adverse effects on the environment," as specified in Section 6(b) of the said Act. DOW knows of no such evidence of any kind.

10. If the new evidence referred to in Paragraph 9 above is not sufficient to sustain Respondent's burden of going forward to present an affirmative case as to the Statement of Issues, as required by Title 40, Code of Federal Regulation, § 164.80, the new issues added by this Docket to the Consolidated Dockets should be stricken at Prehearing Conference. DOW would then have no objection to consolidation and Hearing as stated in Respondent Assistant Administrator's Notice of Intent. Such consolidation would be in the interests of justice, in that it would permit resolution of all issues with respect to existing 2,4,5-T registrations at one time. The issues and evidence would be the same (except for benefits) as with respect to the earlier rice case. This is because the use of 2,4,5-T on rice was the one first questioned and the one as to which the Administrator has expressed the greatest concern. If that use is sustained, presumptively all other presently registered uses would necessarily also be sustained. Accordingly, the focus of the overall Hearing would continue on rice as at present, and there would be no reason for delay.

11. If there is evidence of the kind referred

to in Paragraph 9, however, DOW desires to be permitted to inspect and evaluate it in order to be able to determine how to proceed. If further scientific testing is necessary, up to three years of laboratory effort may be required, in which event DOW would oppose consolidation with the earlier Consolidated Docket and request that the earlier Docket proceed to Hearing while the additional laboratory work proceeds. The new evidence might also suggest the desirability of requesting an evaluation of such evidence by a Scientific Advisory Committee.

12. Clearly, the decisions with respect to consolidation and Hearing date depend upon the nature and extent of any evidence postdating April 13, 1972. Accordingly, DOW requests that early Prehearing Conferences be held in this Docket and in Consolidated Docket Nos. 42, 44, 45 and 48, to consider such new evidence, as well as DOW's motions and applications served June 26, 1972, and any other matters that may expedite the hearings or aid in the disposition of the proceedings.

Dated: New York, New York,
August 21, 1973.

Respectfully submitted,

KAYE, SCHOLER, FIERMAN, HAYS
& HANDLER.

Miriam Feigelson
and
James N. O'Connor,
Of Counsel.

By_____
Milton R. Wessel,
A Member of the Firm.

Hearing Attorneys for The Dow
Chemical Company.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the attached Response of Registrant The Dow Chemical Company was served today by postage prepaid mail, upon the persons whose names and addresses are listed below:

Betty J. Billings (original and two copies)
Hearing Clerk
Environmental Protection Agency
Room E-1019
East Tower, Waterside Mall
401 M Street, S.W.
Washington, D.C. 20460

Anson M. Keller, Esq.
Office of the General Counsel
Environmental Protection Agency
Room 519 West Tower, Waterside Mall
4th and M Streets
Washington, D.C. 20460

David D. Dominick,
Assistant Administrator
for Hazardous Materials
Control
Environmental Protection
Agency
Washington, D.C. 20460

Raymond W. Fullerton, Esq.
U.S. Department of Agriculture
Room 2042, South Agriculture Bldg.
12th & Independence Sts., S.W.
Washington, D.C. 20250

C. E. Lombardi, Jr., Esq.
Blackwell Sanders Matheny Weary
& Lombardi
1600 Federal Reserve Bank Bldg.
Kansas City, Missouri 64106
Attorneys for Thompson-Hayward Chemical Company

Mr. R.J. Otten, Program Coordinator
Amchem Products, Inc.
Ambler, Pennsylvania 19002

Dr. J.A. Herholdt, Vice President
Research & Development
Transvaal, Incorporated
P.O. Box 69
Jacksonville, Arkansas 72076

Dated: August 21, 1973

Milton R. Wessel

DOW CHEMICAL U.S.A.

POST OFFICE BOX 1706
MIDLAND, MICHIGAN 48640

August 21, 1973

EXHIBIT A

CONTENTS

(1) List of EPA Registration Numbers for 2,4,5-T herbicides of Dow Chemical U.S.A.

(2) Copies of currently accepted labeling for Dow 2,4,5-T herbicide products other than VEON® 245 (see (3) infra).

(3) Copy of label for VEON® 245. Use on rice under appeal, I. F. and R. Consolidated Docket Numbers 42, 44, 45 and 48.

(4) Copies of currently proposed amended labeling.

(5) List of Currently Registered Uses of 2,4,5-T.

George E. Lynn

George E. Lynn, Director
Government Regulatory Relations

EXHIBIT A

(1) List of EPA Registration Numbers for 2,4,5-T herbicides - Dow Chemical U.S.A.

LIST OF REGISTRATION NUMBERS FOR

2,4,5-T HERBICIDES - DOW CHEMICAL U.S.A.

EPA REGISTRATION NO.	
464-180	REDDON®
464-182	BRUSH KILLER X
464-186	BRUSH KILLER TX
464-198	VEON® BRUSHKILLER
464-199	VEON® 245
464-204	ESTERON® BRUSHKILLER
464-205	ESTERON® 245
464-272	TIPPON® T6
464-273	TIPPON® 2-2
464-289	VERTON® CE
464-302	ESTERON® 245 CONCENTRATE
464-308	VERTON® T
464-351	BRUSHKILLER LV 4T
464-352	BRUSHKILLER LV 2-2
464-364	TORDON® 155 MIXTURE
464-407	TORDON® 225 MIXTURE
464-422	VERTON® 2T

EXHIBIT A

(2) Copies of currently accepted labeling for Dow 2,4,5-T herbicide products other than VEON® 245 (see (3) *infra*)

SPECIMEN LABEL

WARNING

Do not apply REDDON directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4,5-T and do not permit spray mists containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable 2,4,5-T susceptible vegetation. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby.

DOW®

REDDON

LOW VOLATILE FARM BRUSH KILLER

CONTAINS PROPYLENE GLYCOL BUTYL ETHER ESTERS OF 2,4,5-T

DOWFON
grass killer

CAUTION
KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
HARMFUL IF SWALLOWED
AVOID CONTACT WITH EYES AND
SKIN DURING
HANDLING

CAUTION
KEEP OUT OF REACH
OF CHILDREN

1 GALLON

86-1116 PRINTED IN U.S.A. IN JULY 1971

REPLACES SPECIMEN LABEL 86-1116 PRINTED IN OCTOBER 1969

REVISIONS INCLUDE: (1) GRAZING RESTRICTION ADDED (2) HOME AND RECREATIONAL AREA RESTRICTION ADDED.

REDDON®

FARM BRUSH KILLER

Use REDDON for controlling herbaceous and woody plants growing in rangeland, pastures, fence rows, farmyards and right-of-ways. It is effective in controlling weeds (horsenettle), brush (poison ivy) and trees—such as

REDDON® FARM BRUSH KILLER

DIRECTIONS

Use only Diesel Oil, No. 1 or No. 2 Fuel Oil or Kerosene Where Oil is Recommended in the Spray Mixture.

PREPARING THE SPRAY

OIL SPRAYS: Add the Reddon to the required amount of oil in the spray tank and mix thoroughly. Do not let water get into the Reddon or into the finished mixture, as it may form a jell.

WATER SPRAYS: Start running the water slowly into the empty sprayer tank, then slowly add the Reddon with continuous agitation. All the Reddon should be in the tank by the time ⅓ of the water is in.

NOTE: Reddon in water forms an emulsion, not a solution, and separation may take place on standing, unless sprays are agitated until used up. Mechanical agitation is recommended.

FOLIAGE TREATMENT: *Spray woody growth up to 6 or 8 feet tall after foliage is well developed,* using a drenching spray containing 3 gallons of REDDON per 100 gallons of water. (For mixing small amounts use ½ pint of REDDON in two gallons of water.) Taller brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. (See directions for these treatments.) Poison ivy and brambles may be controlled by using 2 gallons per 100 gallons of water. **Coverage should be complete, and all parts of the plants, including foliage, shoots, stems and bark, should be wet with the spray.** For best results, make applications soon after maximum foliage development in the spring. Under good growing conditions, in humid areas, applications made up to three weeks before fall frost are usually effective. (Application in late summer and fall in Texas and Oklahoma is not recommended.) Spraying after leaves have lost *their normal green color and vigor may not give satisfactory control. Since REDDON is most* effective when plants are growing rapidly, less effective control may result during hot, dry weather when deep soil moisture is deficient. Power equipment with pressures up to 180 pounds will aid in obtaining satisfactory spray coverage. Repeat applications may be necessary as new growth develops, but a single treatment in any one year is usually sufficient. **NOTE:** For prickly pear cactus, use one quart of REDDON in three gallons of diesel oil or kerosene during hot summer period. Apply spray thoroughly to both sides of pads (leaves) and to joints and trunks.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks from the ground line up to a height of 12 to 15 inches. Use a solution of 4 gallons of REDDON in 25 gallons (2 quarts in 3 gallons) of oil. Knapsack or power equipment may be used **but complete wetting of the basal area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark.** Low pressures are desirable. Apply in any season, including the winter months, except when snow or water prevent spraying at the ground line. Following this treatment woody plants may partially leaf out during the growing season and slowly die.

STUMP TREATMENT: Where growth is more than 6 to 8 feet tall, it can be cut close to the ground and stumps and stubs sprayed with the same mixture used for basal bark treatment above. Wet thoroughly all exposed bark, as well as cut surfaces. **This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark.** Apply in any season including the winter months, except when snow or water prevent spraying at the ground line. Apply preferably to freshly-cut stumps. Best results are usually obtained on stumps two inches across or larger.

"FRILL" TREATMENT: *For large trees, make a single-hack girdle or "frill" of overlapping axe* cuts completely around the tree as close to the ground as possible. Treat the injured area with a mixture of 2 gallons of REDDON in 25 gallons (1 quart in 3 gallons) of oil.

J471

SEE WARNING ON SIDE PANEL

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

SPECIMEN LABEL

DOW*

BRUSH KILLER X

A BRUSH AND WEED KILLER

FOR MANUFACTURING OR REPACKAGING USE ONLY

Active Ingredients:

2,4-Dichlorophenoxyacetic Acid, Butoxy propyl esters	36.0%
2,4,5-Trichlorophenoxyacetic Acid, Butoxy propyl esters	34.1%
Inert Ingredients	29.9%

Acid Equivalents:

2,4-Dichlorophenoxyacetic Acid (2,4-D)	22.2%—2.0 lb./gal.
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	22.2%—2.0 lb./gal.

E.P.A. Registration No. 464-182

WARNING

Do not apply BRUSH KILLER X directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4-D or 2,4,5-T, and do not permit spray mist containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable vegetation which is susceptible to 2,4-D or 2,4,5-T. At high temperatures vaporization may cause injury to susceptible plants growing nearby.

Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for BRUSH KILLER X.

Local conditions may affect the use of herbicides. State experimental station or extension weed specialists in many states issue recommendations to fit local conditions.

This product is toxic to fish. Keep out of lakes, streams, and ponds. Do not apply to any area not specified on the label.

Be sure that use of this product conforms to all applicable regulations.

CAUTION

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION • AVOID CONTACT WITH EYES, SKIN AND CLOTHING

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

LOT **GALLONS**

672

THE DOW CHEMICAL COMPANY
AND SUBSIDIARIES
MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG, BCC
CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

©1974 THE DOW CHEMICAL COMPANY

SPECIMEN LABEL

DOW*

BRUSH KILLER TX

2,4,5-T ACID EQUIVALENT 4 POUNDS PER GALLON

FOR MANUFACTURING OR REPACKING USE ONLY

Active Ingredient:
2,4,5-Trichlorophenoxyacetic Acid, Butoxy propyl esters 67.7%
2,4,5-Trichlorophenoxyacetic Acid Equivalent 44.1%

Inert Ingredients 32.3%

E.P.A. Registration No. 464-186

WARNING

Do not apply Brush Killer TX directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4,5-T, and do not permit spray mists containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable 2,4,5-T susceptible vegetation. At higher temperatures vaporization may cause injury to susceptible plants growing nearby.

Do not use on lawns of creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established. (Most legumes are usually damaged or killed.) Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used with Brush Killer TX.

This product is toxic to fish. Keep out of lakes, ponds, and streams. Do not apply to any areas not specified on the label.

Local conditions may affect the use of herbicides. State agricultural experiment station or extension weed service specialists in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

CAUTION!

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

LOT **GALLONS**

672

THE DOW CHEMICAL COMPANY
AND SUBSIDIARIES
MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG, BCC
CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

TRADEMARK OF THE DOW CHEMICAL COMPANY

SPECIMEN LABEL

VEON® BRUSH

Active Ingredients:
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid..... 24.3%
Triethylamine Salt of 2,4,5-Trichlorophenoxyacetic Acid..... 28.2%
Inert Ingredients..... 47.5%

Acid Equivalents:
2,4-Dichlorophenoxyacetic Acid..... 20.2%—2 lb./gal.
2,4,5-Trichlorophenoxyacetic Acid.. 20.2%—2 lb./gal.
E.P.A. Registration No. 464-198-AA

VEON BRUSH KILLER is recommended for use in controlling herbaceous and woody plants growing in right-of-ways, railroad roadbeds, roadsides and industrial sites. **It is effective on such species as:**

aspen	elm	hard and	sassafras
birch	hickory	soft maple	Virginia creeper
blackberry	honeysuckle	oak	wild cherry
elderberry	locust	osage orange	wild rose
		poison ivy	

as well as many other woody and herbaceous weeds.

If allowed to stand after mixing it must be agitated again before using. VEON BRUSH KILLER will not mix with oil and should not be used for stump or basal sprays. It is not recommended for selective use in crops.

DIRECTIONS

Spray woody growth up to 6 or 8 feet tall after foliage is well developed, using a drenching spray containing 1 gallon of VEON BRUSH KILLER per 100 gallons of water. Coverage should be complete and **all parts of the plants, including foliage, shoot stems and bark,** should be t
results usually will be obtai
after maximum foliage develo
control may result during hot,
conditions, in humid areas, a
before fall frost are usually e
and fall in some areas, includ
ommended.) Spraying after l
color and vigor may not give
tions may be necessary as ne

USE PR

Do not apply VEON BRUSH KI
it to come into contact with
trees, ornamentals, cotton or
sensitive to 2,4,5-T and 2,4-D.
it to drift onto them, since ever
cause injury. (Coarse sprays a
applications by airplane, g
should be carried out only w
Do not contaminate irrigation
purposes. Do not store near fe
cides. Excessive amounts of 2,4
2,4-Dichlorophenoxyacetic Acid
seed germination or plant gr
thoroughly cleaning sprayers
2,4,5-T and 2,4-D formulation
used for handling or applying
ping containers should not be
be applied to desirable veget

86-1130 PRINTED IN U.S.A. IN NOVEMBER, 1971.

REPLACES SPECIMEN LABEL 86-1130 PRINTED IN FEBRUARY, 1965.

REVISIONS INCLUDE: (1) U.S.D.A. CHANGED TO E.P.A. (2) NOTICE REVISED. (3) "DITCH BANKS" DELETED. (4) RESTRICTION ON USE AROUND HOME AND RECREATION AREAS ADDED. (5) ZIP CODE ADDED.

SPECIMEN LABEL

VEON® BRUSH KILLER

CONTROLS MANY SPECIES OF TREES, BRUSH AND BROADLEAVED WEEDS

Active Ingredients:
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid..... 24.3%
Triethylamine Salt of 2,4,5-Trichlorophenoxyacetic Acid..... 28.2%
Inert Ingredients..... 47.5%

Acid Equivalents:
2,4-Dichlorophenoxyacetic Acid..... 20.2%—2 lb./gal.
2,4,5-Trichlorophenoxyacetic Acid.. 20.2%—2 lb./gal.

E.P.A. Registration No. 464-198-AA

VEON BRUSH KILLER is recommended for use in controlling herbaceous and woody plants growing in right-of-ways, railroad roadbeds, roadsides and industrial sites. **It is effective on such species as:**

aspen	elm	hard and	sassafras
birch	hickory	soft maple	Virginia creeper
blackberry	honeysuckle	oak	wild cherry
elderberry	locust	osage orange	wild rose
		poison ivy	

as well as many other woody and herbaceous weeds.

If allowed to stand after mixing it must be agitated again before using. VEON BRUSH KILLER will not mix with oil and should not be used for stump or basal sprays. It is not recommended for selective use in crops.

DIRECTIONS

Spray woody growth up to 6 or 8 feet tall after foliage is well developed, using a drenching spray containing 1 gallon of VEON BRUSH KILLER per 100 gallons of water. Coverage should be complete and **all parts of the plants, including foliage, shoot stems and bark,** should be thoroughly wet with the spray. Best results usually will be obtained from applications made soon after maximum foliage development in the spring. Less effective control may result during hot, dry weather. Under good growing conditions, in humid areas, applications made up to three weeks before fall frost are usually effective. (Application in late summer and fall in some areas, including Texas and Oklahoma, is not recommended.) Spraying after leaves have lost their normal green color and vigor may not give satisfactory control. Repeat applications may be necessary as new growth develops.

USE PRECAUTIONS

Do not apply VEON BRUSH KILLER directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4,5-T and 2,4-D. Do not permit spray mist containing it to drift onto them, since even minute quantities of the spray may cause injury. (Coarse sprays are less likely to drift.) **Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift.** Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. Excessive amounts of 2,4,5-Trichlorophenoxyacetic Acid and 2,4-Dichlorophenoxyacetic Acid in the soil may temporarily inhibit seed germination or plant growth. Because of the difficulty of thoroughly cleaning sprayers and other equipment used with 2,4,5-T and 2,4-D formulations, such equipment should not be used for handling or applying other agricultural chemicals. Shipping containers should not be re-used for any material which will be applied to desirable vegetation.

Be sure that use and methods of use of this product conform to local regulations. Consult your agricultural agent or experiment agent if in doubt. VEON BRUSH KILLER exposed to subfreezing temperatures may crystallize. Should crystallization occur, warm gradually to room temperature and mix thoroughly before using. Do not use direct or open flame.

Do not use around the home, recreation areas, or similar sites.

WARNING

KEEP OUT OF THE REACH OF CHILDREN
CAUSES IRRITATION OF SKIN AND EYES
Do Not Get in Eyes
Avoid Contact with Skin and Clothing

In case of contact with the undiluted weed killer, flush eyes with plenty of water for at least 15 minutes and get medical attention; wash skin with soap and plenty of water. Remove and wash contaminated clothing before re-use. Do not wear contaminated shoes. Store out of reach of children and animals.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use. E 971

86-1130 PRINTED IN U.S.A. IN NOVEMBER, 1971.

REPLACES SPECIMEN LABEL 86-1130 PRINTED IN FEBRUARY, 1965.

REVISIONS INCLUDE: (1) U.S.D.A. CHANGED TO E.P.A. (2) NOTICE REVISED. (3) "DITCH BANKS" DELETED. (4) RESTRICTION ON USE AROUND HOME AND RECREATION AREAS ADDED. (5) ZIP CODE ADDED.

DOW

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

SPECIMEN LABEL

WEED LIST

ESTERON BRUSH KILLER is recommended for use in controlling both woody and herbaceous plants growing in right-of-ways, including power, telephone and pipelines, highways and railroads, and in rangelands, pastures, fence rows, and farmyards. It is effective in controlling practically all woody and brushy species normally found in such areas including: alder, aspen, birch, brambles (raspberry and blackberry), chokecherry, elder, elderberry, elm, hawthorn, hickory, honeysuckle, locust, oaks, osageorange, poison ivy, poison oak, salmonberry, sassafras, sumac, sweetgum, wild cherry, wild grape, wild rose, willow, as well as other species.

DOW®

CAUTION

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
HARMFUL IF SWALLOWED
Avoid Contact with Eyes, Skin and Clothing

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither the warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instruction, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

WARNING

ESTERON
BRUSH KILLER

LOW-VOLATILE BRUSH AND WEED KILLER

[illegible]

[illegible]

[illegible]

CAUTION

[illegible]

CAUTION

ESTERON® BRUSH KILLER

DIRECTIONS

Use Only Diesel Oil, No. 1 or No. 2 Fuel Oil, or Kerosene Where Oil is Recommended in the Spray Mixture.

PREPARING THE SPRAY

OIL SPRAYS: Add the ESTERON BRUSH KILLER to the required amount of oil in the spray tank or mixing tank and mix thoroughly. This mixture can be made at any time before actual use, and no separation will occur. Never let any water or oil-water mixture sprays get into the ESTERON BRUSH KILLER or into the oil spray mixture, as it may form a gel!

WATER SPRAYS: Start running the water slowly into the empty sprayer tank, then slowly add the ESTERON BRUSH KILLER with continuous agitation. All the ESTERON BRUSH KILLER should be in the tank by the time 1/3 of the water is in. Caution: See note in paragraph on Oil-Water Mixture Sprays.

OIL-WATER MIXTURE SPRAYS: With vigorous agitation, 1 gallon of ESTERON BRUSH KILLER will emulsify up to 10 gallons of oil in 100 gallons of spray mixture. First, premix the ESTERON BRUSH KILLER and oil in a separate container. Start running the water slowly into the empty sprayer tank, then slowly add the premix with continuous agitation. All the premix should be in the tank by the time 1/3 of the water is in. If the premix is put in the tank without any water, the first water added may form a thick "invert" (water in oil) emulsion which will be hard to break. **NOTE:** ESTERON BRUSH KILLER in water or oil-water sprays forms an emulsion, not a solution, and separation may take place unless sprays are agitated continuously until used up. Mechanical agitation is recommended.

TO AVOID DIFFICULTY
FOLLOW ABOVE DIRECTIONS AS GIVEN

SPOT TREATMENT: Use 3 to 4 quarts of ESTERON BRUSH KILLER in 100 gallons of water and wet all foliage, shoot stems and bark thoroughly.

FOLIAGE TREATMENT: Spray woody growth up to 6 to 8 feet tall after foliage is well developed, using a drenching spray containing 3 to 4 quarts of ESTERON BRUSH KILLER per 100 gallons of water. (For mixing small amounts use 2 ounces of ESTERON BRUSH KILLER in two gallons of water.) Taller brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. (See directions for these treatments.) Poison ivy and brambles may be controlled by using 2 quarts per 100 gallons of water. Coverage should be complete, and all parts of the plants, including foliage, shoots, stems and bark, should be wet with the spray. For best results, make application soon after maximum foliage development in the spring. Less effective control may result during prolonged hot dry weather. Under good growing conditions, in humid areas, applications made up to three weeks before fall frost are usually effective. (Application in late summer and fall in some areas, including Texas and Oklahoma, is not recommended.) Spraying after leaves have lost their normal green color and vigor may not give satisfactory control. Power equipment with pressures up to 250 pounds will aid in obtaining satisfactory spray coverage. Repeat applications may be necessary if new growth develops, but a single treatment in any one year is usually sufficient. **Note:** Many broadleaved weeds are controlled by this application. For prickly-pear cactus, use 1 pint ESTERON BRUSH KILLER in three gallons of oil during hot summer period. Apply spray thoroughly to both sides of pads (leaves) and to joints and trunks.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 4 gallons of ESTERON BRUSH KILLER in 96 gallons (1 pint in 3 gallons) of oil, mixed thoroughly. With certain species 6 gallons of ESTERON BRUSH KILLER in 94 gallons (1 pint in 2 gallons) of oil is effective. Knapsack or power equipment may be used, but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Low pressures are desirable. Apply at any time, including the winter months, except when snow or water prevent spraying to the ground line. Often, delayed response and killing can be expected.

DIRECTIONS (continued on side panel)

2473

SEE WARNING ON SIDE PANEL

THE DOW CHEMICAL COMPANY

86-1066 PRINTED IN U.S.A. IN MAY, 1971

REPLACES SPECIMEN LABEL 86-1066 PRINTED IN FEBRUARY, 1971

REVISIONS INCLUDE: (1) ADDITION OF GRAZING RESTRICTIONS FOR PASTURES AND RANGE LAND TREATMENT.

12167-003-7

SPECIMEN LABEL

DOW®

CAUTION

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing

ESTERON® 245

DIRECTIONS

ESTERON 245 is recommended for use in controlling herbaceous and woody plants growing on right of ways, fence rows, rangelands, pastures, and farmyards, including such 2,4-D resistant species as ash, black gum, brambles, groundcherry, hawthorn, honeywort, maple, mesquite, oak, sassafras, poison ivy, pinkthyme, cactus, redbay, salmonberry, sweetgum, wild blackberry, wild rose, and certain species of Rubus.

Use only diesel oil, No. 1 or No. 2 fuel oil or kerosene where oil is recommended in the spray mixture.

PREPARING THE SPRAY

Oil Sprays Add the ESTERON 245 to the required amount of oil in the spray tank or mixing tank and mix thoroughly. This mixture can be made at any time before actual use and no separation will occur. Do not let any water or oil-water mixture sprays get into the ESTERON 245 or into the finished mixture, as it may form a gel.

Water Sprays Start running the water into the empty spray tank, then slowly add the ESTERON 245 with continuous agitation. All the ESTERON 245 should be in the tank by the time ¼ of the water is in. Caution: See note in paragraph on **Oil-Water Mixture Sprays.**

Oil-Water Mixture Sprays With vigorous agitation, 1 gallon of ESTERON 245 will emulsify up to 10 gallons of oil or 100 gallons of spray mixture. First premix the ESTERON 245 and oil in a separate container. Never allow any water, or mixtures containing water, to get into the ESTERON 245 or the oil spray premix. Start running the water into the empty spray tank, then slowly add the premix with continuous agitation. All the premix should be in the tank by the time ¼ of the water is in. If the premix is put in the tank without any water, the first water added may form a thick, sweet (water in oil) emulsion which will be hard to break. NOTE: ESTERON 245 in water or oil-water sprays forms an emulsion, not a solution, and separation may take place unless sprays are agitated continuously until used up. Mechanical agitation is recommended.

TO AVOID DIFFICULTY FOLLOW ABOVE MIXING DIRECTIONS

SPOT TREATMENT Use 3 to 4 quarts of ESTERON 245 in 100 gallons of water and wet all foliage, shoots, stems, and bark thoroughly.

FOLIAGE TREATMENT Spray woody growth up to 6 to 8 feet tall after foliage is well developed. Using a drenching spray containing 3 to 4 quarts of ESTERON 245 per 100 gallons of water. (For mixing small amounts, use 2 pints of ESTERON 245 in two gallons of water.) Foliar brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. (See directions for these treatments.) Poison ivy, most brambles, and some other species may be controlled by using 2 quarts per 100 gallons of water. **Coverage should be complete, and all parts of the plants, including foliage, shoot stems, and bark should be wet with spray.** For best results, make application soon after maximum foliage development in the spring. Less effective control may result during plantings 4 hot dry weather. Under rapid growing conditions, in humid areas, applications made up to three weeks before full bloom are usually effective. (Application in late summer and fall in some areas, including Texas and Oklahoma, is not recommended.) Spraying after leaves have lost their normal green color and again may not give satisfactory control. Repeat applications may be necessary if new growth develops, but a single treatment at any one point is usually sufficient. **Notes:** Broad leaved weeds are controlled by the application. **For Cactus:** Use 1 pint ESTERON 245 in three gallons of oil during hot summer period. Apply spray thoroughly to both sides of pads (leaves) on all points and tranks.

BASAL BARK TREATMENT Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 3 quarts of ESTERON 245 in 97 gallons (1 part in 31 gallons) of oil. With certain resistant species, 4 quarts of ESTERON 245 in 96 gallons (1 part in 3 gallons) of oil, is effective. **Knapsack or power equipment may be used but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray than young or smooth bark.** Low pressures are desirable. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Optimal delayed response and killing can be expected.

DORMANT BRUSH ON NON-CROP AREAS Treat any time after brush is dormant and most of the foliage has dropped. Sprays should be concentrated at the base of stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under your conditions species such as water persimmon, sassafras and locust also spray the ground area to control small root suckers that may not be visible. Mix 1½ gallons of ESTERON 245 in 100 gallons of fuel oil. Brush of average density and 4-6 feet high may take up to 150 gallons of spray mixture per acre.

DIRECTIONS (continued on side panel)

E471

SEE WARNING ON SIDE PANEL

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

DIRECTIONS (continued)

STUMP TREATMENT. Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the freshly cut stumps and stubs with 3 gallons of ESTERON 245 in 97 gallons (or 1 part in 31 gallons) of oil, mixed thoroughly. For more resistant species, use 4 gallons of ESTERON 245 in 96 gallons (1 part in 3 gallons) of oil. Wet thoroughly **all exposed bark,** as well as cut surfaces. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Best results are obtained on freshly cut stumps two inches across or larger. Trash from brush cutting operation such as sawdust, leaves and branches, etc., should be removed from base of stump before chemical is applied.

"FRILL" TREATMENT. For large trees, make a single-hack girdle or "frill" of overlapping axe cuts completely around the tree as close to the ground as possible. Treat the injured area with a mixture of 2 gallons of ESTERON 245 in 100 gallons (½ part in 3 gallons) of oil. Wet frill thoroughly.

AIRPLANE APPLICATION. To control mesquite, use 1 pint of ESTERON 245 per acre. If oil-water mixture spray is to be used, first premix the ESTERON 245 with ½ to 1 gallon diesel oil per acre in a separate container, then add premix with vigorous agitation to the required amount of water (total spray 4 gallons per acre). Apply 40 to 90 days after first leaves appear. Do not treat if enough has prevented good foliage growth. For post oak and blackjack oak, use 2 quarts of ESTERON 245 per acre. If oil-water mixture spray is to be used, first premix the ESTERON 245 with 1 gallon of diesel oil per acre in a separate container, then add premix with vigorous agitation to the required amount of water (total spray 6 to 8 gallons per acre). Read "Preparing the Spray" before mixing. Apply after foliage is fully developed. Repeat treatment should be applied in accordance with local recommendations. NOTE: Soil moisture should be adequate for normal growth.

FOR SAND SHINNERY OAK: Use ½ to 1 quart of ESTERON 245 plus 1 gallon oil and enough water to make 4 gallons per acre. Swath width not over 42 feet. Two to three applications may be necessary. Apply when foliage is fully developed. Consult competent local authorities on best time and rate for application.

PINE RELEASE: To control black gum, redbay, sweet gum, and oak (white, post, southern red, blackjack), apply 2 quarts of ESTERON 245 in a minimum of 1 gallon diesel oil and cold water to make 5 gallons per acre in May or June. Repeat treatment as needed in successive years.

ESTERON® 245

LOW-VOLATILE BRUSH AND WEED KILLER

CONTAINS PROPYLENE GLYCOL BUTYL ETHER ESTERS OF 2,4,5-T

Acid Equivalent: 4 Pounds per Gallon

FOR THE CONTROL OF TREES, BRUSH AND BROADLEAVED WEEDS

Active Ingredient:
2,4,5-Trichlorophenoxyacetic Acid,
Propylene Glycol Butyl Ether Esters 69.2%
2,4,5-Trichlorophenoxyacetic Acid Equivalent 45.0%
Inert Ingredients 30.8%
U.S.D.A. Registration No. 464-205

1 GALLON

CAUTION
KEEP OUT OF REACH OF CHILDREN
Read Complete Precautions on Side Panel

WARNING

Do not apply ESTERON 245 directly to, or otherwise permit to come in direct contact with, vegetables, flowers, grapes, fruit trees, ornamentals, cotton, black locust or other desirable plants which are sensitive to 2,4,5-T and do not permit spray mists containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs, and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable 2,4,5-T susceptible vegetation. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

Do not use on creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established (Most legumes are usually damaged or killed.)

Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, weed insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used with ESTERON 245.

Local conditions may affect the use of herbicides. State experimental station or extension weed specialists in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

Do not use around the home or recreation areas.

This product is toxic to fish. Keep out of lakes, streams, and ponds. Apply this product only as specified on this label.

Rinse equipment and containers and dispose of waste by burying in non-crop lands away from water supplies. Containers should be disposed by punching holes in them and burying with waste.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

86-1064 PRINTED IN U.S.A. IN MAY 1971

REPLACES SPECIMEN LABEL 86-1064 PRINTED IN FEBRUARY, 1971

REVISIONS INCLUDE: (1) ADDITION OF GRAZING RESTRICTIONS FOR PASTURES AND RANGE LAND TREATMENT.

TIPPON® T6 BRUSH AND WEED KILLER

SPECIMEN LABEL

Containing 9.2 Pounds per Gallon of Powerful, Low Volatility Esters of 2,4,5-T • 2,4,5-T Acid Equivalent 6 Pounds per Gallon

FOR THE CONTROL OF TREES, BRUSH AND BROAD-LEAVED WEEDS

Active Ingredient:

2,4,5-Trichlorophenoxyacetic Acid, Propylene Glycol Butyl Ether Esters **91.6%**

2,4,5-Trichlorophenoxyacetic Acid Equivalent 59.7%

Inert Ingredients **8.4%**

U.S.D.A. Registration No. 464-272

DIRECTIONS

Tippon T6 is recommended for use in controlling herbaceous and woody plants growing in rangelands, pastures, fence rows, ditch banks, farmyards, and right-of-ways, including certain 2,4-D resistant plants such as ash, brambles, ground cherry, hawthorn, horse nettle, maple, mesquite, oak, osage orange, palmetto, poison ivy, prickly pear cactus, salmonberry, wild blackberry, wild rose, and certain species of Ribes.

PREPARING THE SPRAY: Use only diesel oil, No. 1 or No. 2 fuel oil, or kerosene. Tippon T6 herbicide is a non-emulsifiable formulation to be used in oil only. Add Tippon T6 to the required amount of oil in the spray tank or mixing tank and mix thoroughly.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 2 gallons of Tippon T6 in 148 gallons (1 pint in 9 gallons) of oil. With certain species, 4 gallons of Tippon T6 in 146 gallons of oil (1 pint in 4½ gallons) of oil is effective. Knapsack or power equipment may be used, but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Low pressures are desirable. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Often delayed response and killing can be expected.

DORMANT CANE BROADCAST: Treat any time after brush is dormant and most of *the foliage has dropped. Sprays should be concentrated at the base of stems and in* addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under root suckering species such as sumac, persimmon, sassafras and locust, also spray the group area to control small root suckers that may not be visible. Mix 1 gallon of Tippon T6 in 100 gallons of fuel oil. Brush of average density and 4-6 feet high may take up to 150 gallons of spray mixture per acre.

STUMP TREATMENT: *Where growth is more than 6 to 8 feet tall, cut it close to the* ground and spray the freshly cut stumps and stubs with 2 gallons of Tippon T6 in 148 gallons (or 1 pint in 9 gallons) of oil, mixed thoroughly. For stumps and stubs of resistant species 4 gallons of Tippon T6 in 146 gallons (1 pint in 4½ gallons) of oil has been effective. Wet thoroughly all exposed bark, as well as cut surfaces. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Best results are obtained on freshly cut stumps two inches across or larger.

"FRILL" TREATMENT: For large trees, make a single-hack girdle or "frill" of overlapping axe cuts completely around the tree as close to the ground as possible. Treat the injured area with a mixture of 2 gallons of Tippon T6 in 148 gallons (1½ pint in 4½ gallons) of oil.

AIRPLANE APPLICATION: To control mesquite, use ½ to ¾ pint of Tippon T6 in 4 gallons of oil per acre. Apply 50 to 80 days after first leaves appear. Do not treat if drought has prevented good foliage growth. For post oak and blackjack oak, use 2⅔ pints of Tippon T6 in 4 to 6 gallons of oil per acre. Read "Preparing the Spray" before mixing. Apply after foliage is fully developed. Repeat treatment should be applied in accordance with local recommendations. NOTE: Soil moisture should be adequate for normal growth.

WARNING

Do not apply Tippon T6 *directly* to, or otherwise permit it to come into contact with, vegetables, flowers, grapes, fruit trees, ornamentals, cotton, black locust, or other *desirable plants which are sensitive to 2,4,5-T and do not permit spray mists containing* it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.)

Accordingly, applications by airplane, ground rigs, and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable 2,4,5-T susceptible vegetation. At higher temperatures vaporization may cause injury to susceptible plants growing nearby.

Do not use on lawns of creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established. (Most legumes are usually damaged or killed.) Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used with Tippon T6.

Local conditions may affect the use of herbicides. State agricultural authorities in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

CAUTION

MAY CAUSE SKIN IRRITATION

Avoid Contact with Eyes, Skin and Clothing

KEEP OUT OF THE REACH OF CHILDREN

NOTICE: Seller makes no warranty of any kind, express or implied, concerning the use of this product. Buyer assumes all risk of use or handling, whether in accordance with directions or not.

U. S. Patent No. 2,562,855.

THE DOW CHEMICAL COMPANY

MIDLAND, MICHIGAN

MIDLAND DIVISION

86-1145 Printed in U.S.A. in February 1965

REPLACES SPECIMEN LABEL 86-1145 PRINTED IN JUNE 1964
REVISIONS INCLUDE THE ADDITION OF THE U.S.D.A. REGISTRATION NO. AND REQUIRED PRECAUTIONARY LABELING.

TIPPON 2-2 has not been manufactured or shipped since 1970. In 1970 stickers as shown on the following pages were attached to the product. The label is under revision for use if and when the product is again manufactured.

SPECIMEN LABEL

TIPPON® 2-2 BRUSH AND WEED KILLER

Containing 6.31 Pounds per Gallon of Powerful, Low Volatility Esters of 2,4-D and 2,4,5-T — Total Acid Equivalent 4 Pounds per Gallon

FOR THE CONTROL OF MANY KINDS OF BRUSH AND TREES, AND MOST HERBACEOUS WEEDS

Active Ingredients:

2,4-Dichlorophenoxyacetic Acid, Propylene Glycol Butyl Ether Esters	36.3%
2,4,5-Trichlorophenoxyacetic Acid, Propylene Glycol Butyl Ether Esters	34.4%
Inert Ingredients	29.3%

Acid Equivalents:

2,4-Dichlorophenoxyacetic Acid (2,4-D)	22.4%—2 lb./gal.
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	22.4%—2 lb./gal.

U.S.D.A. Registration No. 464-273

WEED LIST: Tippon 2-2 is recommended for controlling both woody and herbaceous plants growing in right-of-ways, including power, telephone and pipe lines, highways and railroads, and in rangelands, pastures, fence rows, farmyards, and along ditch banks. It is effective in controlling practically all woody and bushy species normally found in such areas, including: alder, aspen, birch, brambles (raspberry and blackberry), chokecherry, elder, elderberry, elm, hawthorn, hickory, honeysuckle, locust, oaks, osage orange, poison ivy, poison oak, salmonberry, sassafras, sumac, sweet gum, wild cherry, wild grape, wild rose, willow, as well as other species.

DIRECTIONS

PREPARING THE SPRAY: Add the Tippon 2-2 to the required amount of oil in the spray tank and mix thoroughly. This mixture can be made at any time before actual use, and no separation will occur.

TO AVOID DIFFICULTY FOLLOW ABOVE DIRECTIONS AS GIVEN

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 4 gallons of Tippon 2-2 in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil, or kerosene mixed thoroughly. With certain species, 6 gallons of Tippon 2-2 in 94 gallons (1 pint in 2 gallons) of diesel oil, fuel oil, or kerosene mixed thoroughly is effective in the control of resistant species. Knapsack or power equipment may be used, but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Low pressures are desirable. Apply at any time, including the winter months. Often, delayed response and killing can be expected.

DORMANT CANE BROADCAST: Treat any time after brush is dormant and most of the foliage has dropped. Sprays should be concentrated at the base of stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under root suckering species such as sumac, persimmon, sassafras and locust, also spray the ground area to control small root suckers that may not be visible. Mix 1½ gallons of Tippon 2-2 in 100 gallons of fuel oil. Brush of average density and 4-6 feet high may take up to 150 gallons of spray mixture per acre.

STUMP TREATMENT: Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the stumps and stubs. Use a solution of 4 gallons of Tippon 2-2 in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil, or kerosene mixed thoroughly. With certain species, 6 gallons of Tippon 2-2 in 94 gallons (1 pint in 2 gallons) of diesel oil, fuel oil, or kerosene mixed thoroughly is effective in the control of resistant species. All exposed bark, as well as cut surfaces, should be wet thoroughly. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Apply at any time, including the winter months, preferably to freshly-cut stumps. Best results are usually obtained on stumps two inches across or larger.

"FRILL" TREATMENT: For large trees, make a single-hack girdle or "frill" of overlapping axe cuts completely around the tree, as close to the ground as possible. Treat the injured area with a mixture of 3 gallons of Tippon 2-2 in 97 gallons (1½ pint in 2 gallons) of diesel oil, fuel oil, or kerosene. Apply at any time, including the winter months, preferably to freshly "frilled" trees.

WARNING

Do not apply Tippon 2-2 directly to, or otherwise permit it to come into contact with, vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4-D or 2,4,5-T and do not permit spray mist containing it to drift onto them, since even minutes quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable vegetation which is susceptible to 2,4-D or 2,4,5-T. At high temperatures vaporization may cause injury to susceptible plants growing nearby.

Do not use on lawns of creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established. Most legumes are usually damaged or killed. Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for Tippon 2-2.

Local conditions may affect the use of herbicides. State agricultural authorities in many states issue recommendations to fit local conditions.

Be sure that the use of this product conforms to all applicable regulations.

CAUTION

MAY CAUSE SKIN IRRITATION

Avoid Contact with Eyes, Skin and Clothing

KEEP OUT OF THE REACH OF CHILDREN

NOTICE: Seller makes no warranty of any kind, express or implied, concerning the use of this product. Buyer assumes all risk of use or handling, whether in accordance with directions or not.

U. S. Patents No. 2,523,189; 2,523,228 and 2,562,855.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN
MIDLAND DIVISION

86-1144 Printed in U.S.A. in May 1965

REPLACES SPECIMEN LABEL 86-1144 PRINTED IN SEPT. 1961

REVISIONS INCLUDE: (1) MINOR CHANGE IN INGREDIENT STATEMENT (2) ADDITION OF RECOMMENDATION FOR "DORMANT CANE BROADCAST" (3) ADDITION OF U.S.D.A. REGISTRATION NO. AND REQUIRED PRECAUTIONARY LABELING.

(COPY ON ENVELOPE CONTAINING STICKERS)

Mr. Dealer:

IMPORTANT CHANGES IN DIRECTIONS FOR PRODUCTS CONTAINING 2,4,5-T

Before selling these cans, please remove backing from the pressure sensitive labels enclosed and apply one to the top of each can.

Thank You

(STICKER LABEL ATTACHED TO CANS BY DEALER)

NOTICE

The following uses for products containing 2,4,5-T are no longer registered by the United States Department of Agriculture.

1. **All uses in lakes, ponds or on ditch banks.**
2. **Liquid formulations for use around the home, recreation areas and similar sites.**

<u>Do not</u> apply this product on any of the areas listed above.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN 48640

SPECIMEN LABEL

VERTON® CE

WEED AND BRUSH KILLER

A General Weed and Brush Control Formulation for Forming Inverted Emulsions

ACTIVE INGREDIENTS:

2,4-Dichlorophenoxyacetic acid, Propylene glycol (C_3H_6O to $C_9H_{19}O_3$) butyl ether esters **36.0%**

2,4,5-Trichlorophenoxyacetic acid, Propylene glycol (C_3H_6O to $C_9H_{19}O_3$) butyl ether esters **34.1%**

INERT INGREDIENTS* **29.9%**

Acid Equivalents:

2,4-Dichlorophenoxyacetic acid (2,4-D) ..... **22.2%—2.0 lbs./gallon**

2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) ..... **22.2%—2.0 lbs./gallon**

U.S.D.A. Registration No. 464-289

VERTON CE weed and brush killer is recommended for use in controlling both woody and herbaceous plants growing in non-cropland areas including right-of-ways for power and communication lines, pipelines, railroads, and roadways. It is effective in controlling practically all woody and brushy species normally found in such areas including:

ailanthus	coastal sage	osageorange	wild grape
alder	elder	poison ivy	wild rose
ash	elderberry	poison oak	willow
aspen	elm	rabbitbrush	
big sagebrush	hawthorn	salmonberry	
birch	hazel	sand sagebrush	
brambles (raspberry and blackberry)	hickory	sand shinnery oak	
	honeysuckle	sassafras	
	locust	sumac	
buckbrush	maple	sweetgum	
chokecherry	oaks	wild cherry	

Plus many other woody perennials and most annual and perennial broadleaf weeds.

USE DIRECTIONS

General Information: VERTON CE is designed to be used as a thick "invert" oil-water emulsion spray which minimizes spray drift. Apply only with equipment designed for use with high viscosity (thickened) sprays; using nozzle with large orifices and spraying at low pressure (15 to 30 psi).

Sprays containing VERTON CE may be applied with either ground or aerial equipment.

Amounts and When to Use: Apply VERTON CE weed and brush killer at rates of 2 to 4 pounds acid equivalent per acre on annual and perennial herbaceous weeds and on brush highly susceptible to 2,4-D or 2,4,5-T. For control of species such as sassafras, locust, ailanthus and sumac, use 6 pounds of acid equivalent per acre. Use 8 to 12 pounds of acid equivalent per acre for control of more difficult-to-kill species such as ash, elm, hickory and oak. Apply VERTON CE in the total volume of spray desired as shown by the accompanying MIXING PROPORTIONS table.

For best results, apply the spray when the weeds and brush are growing actively. With good growing conditions and high soil moisture, application may be made up to two or three weeks before normal frost time. Control may be less during hot and dry weather when soil moisture is deficient.

Mixing Instructions: To a clean dry spray tank, equipped with good mechanical agitation, add the required amounts of VERTON CE and No. 2 fuel oil or kerosene and agitate until thoroughly mixed. Then, with continued vigorous agitation, add the amount of water required to give the amount of spray needed. After the water has been added, with continued agitation, recycle the mixture through the spray pumping system and back into the tank for approximately 20 minutes to develop the desired thickness (viscosity). Minor variations in thickness may be obtained by adding small amounts of water to increase the thickness or small amounts of oil to decrease the thickness.

The following mixing proportions table shows the amount of each spray ingredient to be used to prepare various sized batches of total spray, based on the pounds of acid equivalent required per acre.

MIXING PROPORTIONS*

Pounds of acid equivalent (ae) desired/acre	Total gallons of spray desired/acre	Gallons of VERTON CE to use	Gallons of oil to use	Gallons of water to use
2	10	0.5	1.37	8.13
4	15	1.0	1.75	12.25
6	15	1.5	1.5	12.0
8	15	2.0	1.25	11.75
10	15	2.5	1.0	11.5
12	15	3.0	0.75	11.25
8	16	2.0	1.25	12.75
4	20	1.0	2.75	16.25
6	20	1.5	2.25	16.25
8	20	2.0	2.0	16.00
10	20	2.5	1.5	16.00
12	20	3.0	1.5	15.50

*The amounts of each component may be proportionally increased or decreased if larger or smaller batches are to be mixed. However, the ratio of the components should be kept constant regardless of the batch size needed.

Large batches of the invert emulsion may be premixed before the day's spraying operation begins. If unexpected delays occur during spraying operations, the premixed VERTON CE will remain stable as an inverted emulsion for a reasonable period of time. Should a separation of the emulsion occur upon standing, the inverted emulsion is reconstituted easily by re-agitation.

USE PRECAUTION

Do not let VERTON CE or sprays and spray mist containing it, come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4-D or 2,4,5-T, since even minute quantities may cause injury to such plants during either the growing or dormant periods. Applications by either airplane or ground rigs should be made only when there is no hazard from drift. Do not apply by aircraft in the vicinity of cotton, grapes or other desirable vegetation susceptible to phenoxy herbicides. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby. Excessive amounts of this weed killer in the soil may temporarily stop seed germination or plant growth. Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for VERTON CE.

Local conditions may affect the use of herbicides. State agricultural experiment station or extension services weed specialists in many states issue recommendations to fit local conditions. Be sure that use of this product conforms to all applicable regulations.

Carefully note the following points:

1. Other agricultural chemicals should not be added to sprays containing VERTON CE. The emulsifiers used in many conventional sprays may not be compatible with those of VERTON CE.
2. Avoid use of VERTON CE during unusually high temperatures since considerable thinning of the spray mix, as an inverted emulsion, may result. The temperature of the spray solution should not exceed 90° F.
3. Even though the inverted emulsion formed by the proper mixing of VERTON CE is a thicker spray mixture which drifts less than conventional spray mixtures during application, care must still be taken to avoid drift of spray droplets onto susceptible desirable vegetation.
4. Coarse sprays are less likely to drift, therefore, nozzles with large orifices and a low spraying pressure (15 to 30 psi) should be used.

Cleaning of Equipment and Disposal of Waste: Equipment such as tanks, lines, booms, nozzles and containers used in the handling and application of VERTON CE should be flushed after use with oil such as diesel or No. 2 fuel oil. Dispose of flushing and rinse wastes and empty containers by burying in non-crop areas away from water supplies.

This product is toxic to fish. Keep out of lakes, streams and ponds. Apply only as specified on the label.

CAUTION

KEEP OUT OF THE REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
MAY BE HARMFUL IF SWALLOWED
Avoid Contact with Eyes, Skin and Clothing

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Licensed for use under U.S. Patent No. 3,189,430.

THE DOW CHEMICAL COMPANY MIDLAND, MICHIGAN 48640

369

86-1154 PRINTED IN U.S.A. IN APRIL 1969

REPLACES SPECIMEN LABEL 86-1154 PRINTED IN MARCH 1964

REVISIONS INCLUDE: ALL SECTIONS OF THE LABEL HAVE BEEN REVISED EXCEPT THE INGREDIENT STATEMENT SECTION.

SPECIMEN LABEL

ESTERON® 245 CONCENTRATE

MULTI-USE BRUSH AND WEED KILLER

Contains 9.2 pounds per gallon of powerful low volatility Propylene Glycol Butyl Ether Esters of 2,4,5-T for the control of trees, brush, and broadleaved weeds

ACTIVE INGREDIENT:
2,4,5-Trichlorophenoxyacetic Acid, Propylene Glycol (C_3H_8O to $C_7H_{15}O_3$) Butyl Ether Esters **92.5%**
2,4,5-Trichlorophenoxyacetic Acid Equivalent 60.2%
INERT INGREDIENTS: **7.5%**
2,4,5-T Acid Equivalent 6 Pounds per Gallon

U.S.D.A. Registration No. 464-302

DIRECTIONS

ESTERON 245 CONCENTRATE herbicide is recommended for use in controlling herbaceous and woody plants growing in right-of-ways, fence rows, rangelands, pastures, and farmyards, including such 2,4-D resistant plants as—

ash	ground cherry	maple	osageorange	prickly-pear cactus	[illegible]
blackgum	hawthorn	mesquite	palmetto	redbay	wild blackberry
brambles	horsenettle	oak	poison ivy	salmonberry	wild rose

and certain species of Ribes.

Use only diesel oil, No. 1 or No. 2 fuel oil, or kerosene where oil is recommended in the spray mixture.

PREPARING THE SPRAY: Oil Sprays: Add ESTERON 245 CONCENTRATE to the required amount of oil in the spray or mixing tank and mix thoroughly. This mixture can be made at any time before actual use and no separation will occur.

Water Sprays: Add the required amount of ESTERON 245 CONCENTRATE to the spray tank, then add the required amount of water and mix thoroughly. If preferred, the water may be added to the tank first followed by the addition of ESTERON 245 CONCENTRATE: **Caution:** see **Note** under **Oil-Water Sprays.**

Oil-Water Sprays: Thoroughly mix the required amount of ESTERON 245 CONCENTRATE with the required amount of oil either in the tank or in a nurse mixing tank. Add mixture to the spray tank and fill with the required amount of water while agitating thoroughly. Mechanical agitation is recommended. **Note:** ESTERON 245 CONCENTRATE in water or oil-water sprays forms an emulsion, not a solution, and separation may occur unless sprays are agitated continuously until used up. Mechanical agitation is recommended. **If the emulsion is allowed to stand and separation does occur, a satisfactory emulsion can be re-established by vigorous agitation.**

TO AVOID DIFFICULTY FOLLOW ABOVE MIXING DIRECTIONS

SPOT TREATMENT: Use 2 to 2½ quarts of ESTERON 245 CONCENTRATE in 100 gallons of water and wet all foliage, shoots, stems, and bark thoroughly.

FOLIAGE TREATMENT: Spray woody growth up to 6 to 8 feet tall after foliage is well developed, using a drenching spray containing 2 to 2½ quarts of ESTERON 245 CONCENTRATE per 100 gallons of water. (For mixing small amounts use 2 ounces of ESTERON 245 CONCENTRATE in two gallons of water.) Taller brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. (See directions for these treatments.) Poison ivy, most brambles, and some other species may be controlled by using 3 pints per 100 gallons of water. **Coverage should be complete, and all parts of the plants including foliage, shoot stems, and bark should be wet with the spray.** For best results, make application soon after maximum foliage development in the spring. Less effective control may result during prolonged hot dry weather. Under good growing conditions in humid areas, applications made up to three weeks before fall frost are usually effective. (Application in late summer and fall in some areas, including Texas and Oklahoma, is not recommended.) Spraying after leaves have lost their normal green color and vigor may not give satisfactory control. Repeat applications may be necessary if new growth develops, but a single treatment in any one year is usually sufficient. **Note:** Broadleaved weeds are controlled by this application. **For Cactus:** Use ⅓ pint ESTERON 245 CONCENTRATE in three gallons of oil during hot summer period. Apply spray thoroughly to both sides of pads (leaves) and to joints and trunks.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 2 gallons of ESTERON 245 CONCENTRATE in 98 gallons (⅔ pint in 3½ gallons) of oil. With certain resistant species, 2½ gallons of ESTERON 245 CONCENTRATE in 97½ gallons (⅔ pint in 3 gallons) of oil, is effective. **Knapsack or power equipment may be used, but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray than young or smooth bark.** Low pressures are desirable. Apply at any time, including the winter months, except when snow or water prevent spraying to the ground line. Often delayed response and killing can be expected.

STUMP TREATMENT: Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the freshly cut stumps and stubs with 2 gallons of ESTERON 245 CONCENTRATE in 98 gallons (or ⅔ pint in 3½ gallons) of oil mixed thoroughly. For more resistant species use 2½ gallons of ESTERON 245 CONCENTRATE in 97½ gallons (⅔ pint in 3 gallons) of oil. Wet thoroughly **all exposed bark,** as well as cut surfaces. **This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark.** Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Best results are obtained on freshly cut stumps two inches across or larger. Trash from brush cutting operation such as sawdust, leaves and branches, etc., should be removed from base of stump before chemical is applied.

"FRILL" TREATMENT: For large trees, make a single-hack girdle or "frill" of overlapping axe cuts completely around the tree as close to the ground as possible. Treat the injured area with a mixture of 1⅓ gallons of ESTERON 245 CONCENTRATE in 100 gallons (⅓pint in 3 gallons) of oil. Wet frill thoroughly.

DORMANT CANE BROADCAST: Treat any time after brush is dormant and most of the foliage has dropped. Sprays should be concentrated at the base of stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under root suckering species such as sumac, persimmon, sassafras and locust, also spray the ground area to control small root suckers that may not be visible. Mix 1 gallon of ESTERON 245 CONCENTRATE in 100 gallons of fuel oil. Brush of average density and 4-6 feet high may take up to 150 gallons of spray mixture per acre.

AIRPLANE APPLICATION: To control mesquite, use ⅔ pint of ESTERON 245 CONCENTRATE per acre. If oil-water mixture spray is to be used, see **"Oil-Water Sprays"** under **"PREPARING THE SPRAY"** (total spray 4 gallons per acre). Apply 40 to 90 days after first leaves appear. Do not treat if drought has prevented good foliage growth. **For post oak and blackjack oak,** use 3 pints of ESTERON 245 CONCENTRATE per acre. If oil-water mixture spray is to be used, see **"Oil-Water Sprays"** under **"PREPARING THE SPRAYS"** (total spray 4 to 6 gallons per acre). Apply after foliage is fully developed. Repeat treatment should be applied in accordance with local recommendations. **NOTE:** Soil moisture should be adequate for normal growth.

FOR SAND SHINNERY OAK: Use ⅔ to 1⅓ pint of ESTERON 245 CONCENTRATE plus 1 gallon oil and enough water to make 4 gallons per acre. Swath width not over 42 feet. Two to three applications may be necessary. Apply when foliage is fully developed. Consult competent local authorities on best time and rate for application.

PINE RELEASE: To control blackgum, redbay, sweetgum, and oak (white, post, southern red, blackjack), apply 2⅔ pints of ESTERON 245 CONCENTRATE in a minimum of 1 gallon diesel oil and add water to make 5 gallons per acre in May or June. Repeat treatment as needed in successive years.

USE PRECAUTIONS

Do not apply ESTERON 245 CONCENTRATE directly to, or otherwise permit it to come into direct contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton, black locust or other desirable plants which are sensitive to 2,4,5-T and do not permit spray mists containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, applications by airplane, ground rigs, and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes, or other desirable 2,4,5-T susceptible vegetation. At higher temperatures vaporization may cause injury to susceptible plants growing nearby.

Do not use on creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established. (Most legumes are usually damaged or killed.)

Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides, or fungicides. To avoid injury to desirable plants, do not store, handle, or apply other agricultural chemicals with the same containers or equipment used with ESTERON 245 CONCENTRATE.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

This product is toxic to fish. Keep out of lakes, streams, and ponds. Apply only as specified on this label. Be sure that use of this product conforms to all applicable regulations.

Rinse equipment and containers and dispose of waste by burying in non-croplands away from water supplies. Containers should be disposed of by punching holes in them and burying with wastes. **Do not use around the home or recreation areas, or similar sites.**

Local conditions may affect the use of herbicides. State experimental station or extension weed specialists in many states issue recommendations to fit local conditions.

WARNING

KEEP OUT OF THE REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
HARMFUL OR FATAL IF SWALLOWED
Avoid Contact with Eyes, Skin and Clothing

If Swallowed, induce vomiting by giving an emetic such as 2 tablespoonfuls of table salt in a glass of warm water; repeat until vomit fluid is clear, then give two teaspoonfuls of baking soda in a glass of warm water. **In case of eye contact flush with water.** Wash thoroughly after handling. Do not store near food or feed.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

E471

86-1069 PRINTED IN U.S.A. IN JULY 1971

REPLACES SPECIMEN LABEL 86-1069 PRINTED IN SEPTEMBER 1964

REVISIONS INCLUDE: (1) MINOR CHANGE OF PRECENTAGE OF INGREDIENTS. (2) DISCIAIMER NOTICE REVISED. (3) GRAZING RESTRICTION ADDED. (4) FISH AND WILDLIFE PRECAUTION ADDED. (5) AREA APPLICATION RESTRICTIONS ADDED. (6) CONTAINER DISPOSAL STATEMENT ADDED.

SPECIMEN LABEL

VERTON® T HERBICIDE

FOR APPLICATION AS AN INVERTED EMULSION TO CONTROL UNDESIRABLE HERBACEOUS WEEDS, BRUSH, VINES AND OTHER WOODY PLANTS.

Active Ingredient:
2,4,5-Trichlorophenoxyacetic Acid, Propylene Glycol (C_3H_8O to $C_9H_{18}O_3$) Butyl Ether Esters 68.0%
Inert Ingredients 32.0%
Acid Equivalent:
2,4,5-Trichlorophenoxyacetic Acid ..... 44.3%—4 lb/gallon
U.S.D.A. Registration No. 464-308

USE DIRECTIONS

General Information: VERTON T herbicide is designed to be used as a thick "invert" oil-water spray emulsion to minimize spray drift. Application should be made only with equipment designed for use with high viscosity (thickened) spray; use nozzles with large orifices and spray at low pressure (15-30 psi). VERTON T may be applied with either ground or aerial equipment to control unwanted plants growing in non-cropland areas including right-of-ways for power and communication lines, pipelines, railroads, highways, and for forestry uses. It is effective for control of ailanthus, ash, brambles, curly indigo, elm, ground cherry, gum, hickory, horsenettle, locust, maple, Mexican weed, oak, poison ivy, sassafras, sumac, Virginia creeper and many other vines and other herbaceous and woody plants. Apply when the leaves are well developed and the plants are actively growing. For best results the volume of spray mixture used should not be less than 10 gallons per acre, with 15-20 gallons per acre providing improved plant coverage.

Amounts to Use: For the control of 2,4,5-T susceptible herbaceous weeds and woody vines such as brambles, poison ivy, Virginia creeper, Mexican weed, curly indigo, ground cherry and horsenettle use VERTON T at rates to give 2 to 6 pounds acid equivalent per acre. For brush species most susceptible to 2,4,5-T such as ailanthus, locust, sassafras and sumac use VERTON T at rates to give 4 to 6 pounds of acid equivalent per acre. For harder to kill brush and trees such as ash, elm, hickory, maple and oak use at rates to give 8 to 12 pounds of acid equivalent per acre. To control competing hardwood species for *"release of conifers"*, use VERTON T at rates to give 2 to 6 pounds of acid equivalent per acre.

Apply VERTON T in the total volume desired and as determined by reference to the accompanying *MIXING PROPORTIONS* table.

Mixing Instructions: To a clean dry spray tank, equipped with good mechanical agitation, add the required amounts of VERTON T and No. 2 fuel oil or kerosene, and vigorously agitate until thoroughly mixed. Then, with continued agitation add the amount of water required to give the total amount of spray needed. After the water has been added, and with continued agitation, re-cycle the mixture through the spray pumping system back into the tank to develop the desired viscosity (thickness). Minor variations in thickness may be obtained by adding a small amount of water to increase the thickness or a small amount of oil to decrease the thickness. The accompanying *MIXING PROPORTIONS* table shows the amount of each spray ingredient to be used to prepare various sized batches of total spray, based on the pounds of acid equivalent required per acre.

MIXING PROPORTIONS*

Pounds of acid equivalent desired/acre	Total gallons of spray desired/acre	Gallons of VERTON T to use	Gallons of oil to use	Gallons of water to use
2	10	.5	1.25	8.25
4	10	1.0	1.0	8.0
6	10	1.5	0.75	7.75
6	12	1.5	1.0	9.5
4	15	1.0	2.0	12.0
6	15	1.5	1.5	12.0
8	15	2.0	1.25	11.75
10	15	2.5	1.0	11.5
12	15	3.0	0.75	11.25
4	20	1.0	2.5	16.5
6	20	1.5	2.5	16.0
8	20	2.0	2.0	16.0
10	20	2.5	1.75	15.75
12	20	3.0	1.5	15.5

* The amounts of each component may be proportionally increased or decreased if larger or smaller batches are to be mixed. However, the ratio of the components should be kept constant regardless of the batch size needed.

Large batches of the invert emulsion may be pre-mixed before the day's spraying operation begins. If unexpected delays occur during the spray operations, the pre-mixed VERTON T will remain relatively stable as an inverted emulsion for reasonable periods of time. Should a separation of the emulsion occur upon standing, the inverted emulsion is easily reconstituted by re-agitation.

USE PRECAUTIONS

Do not let VERTON T or spray mixtures containing it come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton, or other desirable plants which are sensitive to 2,4,5-T since even minute quantities may cause injury to such plants during the growing or dormant period. Applications by either aircraft or ground rigs should be made only when there is no hazard from drift. Do not apply by aircraft in the vicinity of cotton, grapes or other desirable vegetation susceptible to 2,4,5-T. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby. Excessive amounts of this herbicide in the soil may temporarily inhibit seed germination. Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for VERTON T herbicide.

Be sure that use of this product conforms to all applicable regulations. Local conditions may effect the use of herbicides. State Agricultural Experiment Stations or Extension Service Weed Specialists in many states issue recommendations to fit local conditions.

1. Other agricultural chemicals should not be added to spray containing VERTON T. The emulsifiers used in many conventional sprays may not be compatible to those of VERTON T.
2. Avoid use of VERTON T during unusually high temperatures since considerable thinning of the spray mix as an inverted emulsion may result. The temperature of the spray solution should not exceed 90°F. Even though the inverted emulsion formed by the mixing of VERTON T is a thicker spray mixture which drifts less than conventional spray mixtures during applications, care must still be taken to avoid drift of spray droplets on to susceptible desirable vegetation.
3. Coarse sprays are less likely to drift, therefore, nozzles with large orifices and a low spraying pressure (15 to 30 psi) should be used. Vapors from this product may cause injury to susceptible plants in the immediate vicinity.

Cleaning of Equipment and Disposal of Waste: Equipment such as tanks, lines, booms, nozzles and containers used in the handling and application of VERTON T should be flushed after use with oil such as diesel or No. 2 fuel oil. Dispose of flushing and rinse waters by burying in non-cropland areas away from water supplies. Used containers should be disposed of by punching holes in them and burying with waste.

This product is toxic to fish. Keep out of lakes, streams and ponds. Apply only as specified on the label.

CAUTION

KEEP OUT OF REACH OF CHILDREN
HARMFUL IF SWALLOWED
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing

NOTICE Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Licensed for use under U.S. Patent No. 3,189,430

NET CONTENTS _____ GALLONS

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

C469

86-1199 PRINTED IN U.S.A. IN MAY 1969

THIS IS THE INITIAL PRINTING OF THIS SPECIMEN LABEL.

SPECIMEN LABEL

DOW®

CAUTION
KEEP OUT OF REACH OF CHILDREN
HARMFUL IF SWALLOWED
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing

Do not use around the home, recreation areas, or similar sites.

BRUSH KILLER LV 4T

FOR THE CONTROL OF MANY SPECIES OF TREES, BRUSH AND BROADLEAVED WEEDS

CAUTION

CAUTION

PRECAUTIONS

BRUSH KILLER LV 4T

BRUSH KILLER LV 4T is recommended for use in controlling herbaceous and woody plants growing in rangeland, pastures, fence rows, farmyards and rights-of-way. It is effective in controlling certain 2,4-D resistant plants such as brambles, ground cherry, hawthorn, horse nettle, maple, mesquite, oak, osage orange, palmetto, poison ivy, prickly pear cactus, salmonberry, wild blackberry, wild rose and certain species of Ribes, as well as many other woody and herbaceous species.

DIRECTIONS

PREPARING THE SPRAY: Add half the required amount of water or oil to the spray tank, then add the BRUSH KILLER LV 4T with agitation, and finally the balance of the water or oil with continued agitation. WARNING: If BRUSH KILLER LV 4T is to be used in preparing straight oil mixtures, do not let water get into the BRUSH KILLER LV 4T itself nor into the finished mixture. NOTE: BRUSH KILLER LV 4T forms an emulsion—not a solution—in water, and the BRUSH KILLER LV 4T tends to separate out on standing. Provide agitation to prevent such separation and ensure uniformity of spray mixture.

For Treating Small Areas: One tablespoonful of BRUSH KILLER LV 4T in 1½ gallons of oil or water is approximately equivalent to one quart in 100 gallons.

FOLIAGE TREATMENT: Spray woody growth up to 6 or 8 feet tall after foliage is well developed, using a drenching spray containing 3 quarts of BRUSH KILLER LV 4T per 100 gallons of water. Taller brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. Poison ivy, most brambles and some other species may be controlled by using 2 quarts per 100 gallons of water. Coverage should be complete, and all parts of the plants, including foliage, shoot stems and bark, should be wet with spray. Best results usually will be obtained from applications made soon after maximum foliage development in the spring. With good growing conditions and adequate soil moisture, applications may be made up to 2 or 3 weeks before normal frost date. Less effective control may result during hot, dry weather when deep soil moisture is deficient. Power equipment with pressures up to 250 pounds will aid in obtaining satisfactory spray coverage. Repeat applications may be necessary as new growth develops, but a single treatment in any one year is usually sufficient. NOTE: Many broad-leaved weeds are controlled by this application.

DORMANT CANE BROADCAST: Treat any time after brush is dormant and most of the foliage has dropped. Sprays should be concentrated at the base of the stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under root suckering species such as sumac, persimmon, sassafras and locust, also spray the ground area to control small root suckers that may not be visible. Mix 1½ gallons of BRUSH KILLER LV 4T in 100 gallons of fuel oil. Brush of average density and 4-6 feet high may take up to 150 gallons of spray mixture per acre.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 3 gallons of BRUSH KILLER LV 4T in 97 gallons (1 pint in 3½ gallons) of diesel oil, fuel oil or kerosene. With certain species, 4 gallons of BRUSH KILLER LV 4T in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil or kerosene is effective. Knapsack or power equipment may be used but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Low pressures are desirable. Apply at any time, including the winter months. Often delayed response and killing can be expected.

STUMP TREATMENT: Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the stump and stubs with 3 gallons of BRUSH KILLER LV 4T in 97 gallons (1 pint in 3½ gallons) of diesel oil, fuel oil, or kerosene, mixed thoroughly. With certain species 4 gallons of BRUSH KILLER LV 4T in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil, or kerosene is effective. Wet thoroughly all exposed bark, as

DIRECTIONS (continued in side panel)

LOT MM

SEE CAUTIONS ON SIDE PANEL

A571

86-1214 PRINTED IN JULY 1971

REPLACES SPECIMEN LABEL 86-1214 PRINTED IN JULY 1970

REVISIONS INCLUDE (1) INGREDIENT STATEMENT CHANGED (2) PRECAUTIONARY LABELING REVISED (3) USE PRECAUTION SECTION RETITLED (4) GRAZING RESTRICTION REVISED.

SPECIMEN LABEL

BRUSH KILLER LV 2-2

BRUSH AND WEED KILLER

For the Control of Many Kinds of Brush and Trees, and Most Herbaceous Weeds

Active Ingredients:
2,4-Dichlorophenoxyacetic Acid, Isooctyl Ester 34.7%
2,4,5-Trichlorophenoxyacetic Acid Isooctyl Ester 33.1%
Inert Ingredients: 32.2%
Acid Equivalents:
2,4-Dichlorophenoxyacetic Acid (2,4-D) – 23.0% or 2.0 lb./gal.
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T) – 23.0% or 2.0 lb./gal.
TOTAL ACID EQUIVALENT 4 POUNDS PER GALLON
E.P.A. Registration No. 464-352

BRUSH KILLER LV 2-2 is recommended for use [illegible]g both woody and herbaceous plants growing in fence rows and rights-of-way including power, telephone and pipe lines, highways and railroads. It is effective in controlling practically all woody and brush species normally found in such areas, such as alder, aspen, birch, brambles (raspberry and blackberry), chokecherry, elder, elderberry, elm, hawthorn, hickory, honeysuckle, locust, oaks, osage orange, poison ivy, poison oak, salmonberry, sassafras, sumac, sweet gum, wild cherry, wild grape, wild rose, and willow, as well as other species.

DIRECTIONS

TO PREPARE A SPRAY: Add half the required amount of water or oil to the spray tank, then add the BRUSH KILLER LV 2-2 with agitation, and finally the balance of the water or oil with continued agitation. WARNING: If BRUSH KILLER LV 2-2 is to be used in preparing straight oil mixtures, do not let water get into the BRUSH KILLER LV 2-2 itself nor into the finished mixture. Note: BRUSH KILLER LV 2-2 forms an emulsion – not a solution – with water which tends to separate on standing. Provide agitation to prevent such separation and ensure uniformity of spray mixture.

FOR TREATING SMALL AREAS: One tablespoonful of BRUSH KILLER LV 2-2 in 1½ gallons of oil or water is about equal to one quart in 100 gallons.

FOLIAGE TREATMENT: Spray woody growth up to 6 or 8 feet tall after foliage is well developed, using a drenching spray containing 3 to 4 quarts of BRUSH KILLER LV 2-2 per 100 gallons of water. Taller brush can be sprayed successfully, although in many cases basal bark or stump treatment is preferable. **Coverage should be complete and all parts of the plants, including foliage, shoot stems and bark should be wet with the spray.** Best results usually will be obtained from applications made soon after maximum foliage development in the spring. With good growing conditions and adequate soil moisture, application may be made up to 2 or 3 weeks before normal frost time. Less effective control may result during hot, dry weather when deep soil moisture is deficient. Power equipment with pressures up to 250 pounds per square inch will aid in obtaining satisfactory spray coverage. Repeat applications may be required as new growth appears, but a single treatment in any one year is usually sufficient.

BASAL BARK TREATMENT: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 4 gallons of BRUSH KILLER LV 2-2 in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil, or kerosene, mixed thoroughly. With certain species 6 gallons of BRUSH KILLER LV 2-2 in 94 gallons (1 pint in 2 gallons) of diesel oil, fuel oil, or kerosene is effective. Knapsack or power equipment may be used, but **complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark.** Low pressures are desirable. Apply at any time, including the winter months. Often, delayed response and killing can be expected.

DORMANT CANE BROADCAST: Treat any time after brush is dormant and most of the foliage has dropped. Sprays should be concentrated at the base of the stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them. Under root suckering species such as sumac, persimmon, sassafras and locust, also spray the ground area to control small root suckers that may not be visible. Mix 2½ to 1½ gallons of BRUSH KILLER LV 2-2 in 100 gallons of fuel oil. Brush of average density and 4 to 6 feet high may take up to 150 gallons of spray mixture per acre.

STUMP TREATMENT: Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the stumps and stubs. Use a solution of 4 gallons of BRUSH KILLER LV 2-2 in 96 gallons (1 pint in 3 gallons) of diesel oil, fuel oil, or kerosene, mixed thoroughly. With certain species 6 gallons of BRUSH KILLER LV 2-2 in 94 gallons (1 pint in 2 gallons) of diesel oil, fuel oil, or kerosene is effective. **All exposed bark,** as well as cut surfaces, should be wet thoroughly. This means spraying until run-down or run-off to the ground line is noticeable. **Old or rough bark requires more spray volume than young or smooth bark.** Apply at any time, including the winter months, preferably to freshly-cut stumps. Best results are usually obtained on stumps two inches across or larger. Trash from the brush cutting operation such as sawdust, leaves and branches, etc. should be removed from base of stump before chemical is applied.

"FRILL" TREATMENT: For large trees, make a single-hack girdle or "frill" of over-tapping axe cuts completely around the tree, as close to the ground as possible. Treat the injured area with a mixture of 3 gallons of BRUSH KILLER LV 2-2 in 97 gallons (½ pint in 2 gallons) of diesel oil, fuel oil, or kerosene. Thoroughly wet "frill".

USE PRECAUTIONS

Do not apply BRUSH KILLER LV 2-2 directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4-D or 2,4,5-T, and do not permit spray mist containing it to drift onto them, since even minute quantities of the spray may cause severe injury during both growing and dormant periods. (Coarse sprays are less likely to drift.) Accordingly, **applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift. Do not apply by airplane in the vicinity of cotton, grapes or other desirable vegetation which is susceptible to 2,4-D or 2,4,5-T.** At high temperature vaporization may cause injury to susceptible plants growing nearby.

Do not use on creeping grasses, such as bent, except for spot spraying, nor on freshly seeded turf until grass has become well established. Most legumes are usually damaged or killed. Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for BRUSH KILLER LV 2-2.

Do not use around the home, recreation areas, or similar sites.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within two weeks after application.

This product is toxic to fish. Keep out of lakes, streams, and ponds.

Rinse equipment and containers and dispose of wastes by burying in non-crop lands away from water supplies. Containers should be disposed by punching holes in them and burying with wastes.

Local conditions may affect the use of herbicides. State agricultural authorities in many states issue recommendations to fit local conditions. Be sure that use of this product conforms to all applicable regulations.

CAUTION

KEEP OUT OF REACH OF CHILDREN
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing

NOTICE: *Seller warrants that the product conforms to its chemical description and is* reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

THE DOW CHEMICAL COMPANY
AND SUBSIDIARIES
MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG, BCC
CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

* Trademark of THE DOW CHEMICAL COMPANY

A1071

LOT **GALLONS**

86-1226 PRINTED IN U.S.A. IN SEPTEMBER, 1972.

REPLACES SPECIMEN LABEL 86-1226 PRINTED IN JULY, 1971.

REVISIONS INCLUDE: (1) U.S.D.A. CHANGED TO E.P[illegible]. (2) FISH AND WILDLIFE PRECAUTION ADDED. (3) DISPOSAL INST[illegible]TIONS ADDED.

SPECIMEN LABEL

TORDON® 155 MIXTURE Brush Killer

Containing low volatile esters of TORDON acid and 2,4,5-T for use to control many kinds of brush and unwanted trees on utility rights-of-way.

ACTIVE INGREDIENTS:

4-amino-3,5,6-trichloropicolinic acid, as the isooctyl ester 15.1%

2,4,5-trichlorophenoxyacetic acid, as the propylene glycol butyl ether esters 63.4%

INERT INGREDIENTS 21.5%

Acid Equivalents:

4-amino-3,5,6-trichloropicolinic acid ..... 10.3%—1 lb/gal

2,4,5-trichlorophenoxyacetic acid ..... 41.3%—4 lb/gal

U.S.D.A. Registration No. 464-364

TORDON 155 MIXTURE brush killer diluted in oil **(Do Not Mix With Water)** is recommended for use on utility right-of-ways to control unwanted brush such as ash, aspen, birch, cherry, cottonwood, dogwood, elm, gum, hackberry, hawthorne (crataegus), maple, mesquite, oak, osage orange, palmento, pecan, persimmon, pine, red bay, salmon berry, sassafras, willow, and many other unwanted woody plant species.

USE DIRECTIONS

BASAL BARK TREATMENT: Use 1 to 3 gallons of TORDON 155 MIXTURE in enough diesel oil, No. 1 or No. 2 fuel oil or kerosene to make 100 gallons of spray mixture. Apply with knapsack sprayer or power spraying equipment using low pressures (20-40 psi). Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground. Thorough wetting of the indicated area is necessary for good control. Spray until run-off at the ground line is noticeable. Old or rough bark requires more spray than smooth young bark. Apply at any time, including the winter months, except when snow or water prevent spraying to the ground line.

DORMANT STEM BROADCAST: Mix 3 to 6 quarts of TORDON 155 MIXTURE brush killer in enough oil to make 100 gallons of spray. Apply with knapsack or power spraying equipment, using low pressure (20-40 psi). Treat any time when brush is dormant and most of the foliage has dropped. Thoroughly wet the upper parts of the stems and use the remainder needed to wet the lower 12 to 15 inches above the ground to the point of run-off. For root suckering species such as sumac, persimmon, sassafras and locust, also spray the ground under the plants to cover small root suckers which may not be visible above the soil surface. Brush of average density and 4 to 6 feet high may take up to 150 gallons of spray mixture per acre.

USE PRECAUTIONS

Do Not Use TORDON 155 Mixture With Water. TORDON and 2,4,5-T herbicides are highly potent and even minute quantities may damage plants during both the growing and dormant periods. Therefore, **do not apply or otherwise permit TORDON 155 MIXTURE or spray mist containing it to contaminate soil used to grow desirable susceptible plants nor to contact susceptible plants such as vegetables, flowers, grapes, fruit trees, ornamentals, cotton, beans of all types including soybeans and other desirable broadleaved plants.** Applications should be made only when there is no hazard from spray drift. Coarse sprays are less likely to drift. Do not allow the material to contaminate water used for irrigation, drinking or other domestic purposes. Do not store near food, feedstuff, fertilizer, seeds, insecticides, fungicides or other pesticides. Because of the difficulty of thoroughly cleaning sprayers such equipment should not be used for applying other materials to desirable plants. Shipping containers should not be re-used for other materials which may be applied to desirable plants.

This product is toxic to fish. Keep out of lakes, streams or ponds.

Rinse equipment and containers thoroughly with water and dispose of wastes by burying in non-crop land away from water supplies. Containers should be disposed of by punching holes in them and burying with waste.

NOTE: Be sure that all use of TORDON 155 MIXTURE conforms to local regulations.

CAUTION

KEEP OUT OF THE REACH OF CHILDREN
HARMFUL IF SWALLOWED
MAY CAUSE IRRITATION
Avoid Contact with Eyes, Skin and Clothing
In case of contact wash with plenty of water.

Notice: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

U. S. Patent Nos 3,285,925 and 2,562,855

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

A369

86-1194 PRINTED IN U.S.A. IN APRIL 1969

REPLACES SPECIMEN LABEL 86-1194 PRINTED IN OCTOBER 1968

REVISION INCLUDES: (1) ADDITION OF DORMANT STEM BROADCAST USE.

SPECIMEN LABEL

TORDON® 225 MIXTURE HERBICIDE

For Control of Mesquite on Rangeland and Permanent Grass Pastures in Texas

ACTIVE INGREDIENTS:

4-amino-3,5,6-trichloropicolinic acid as the triethylamine salt	15.2%
2,4,5-trichlorophenoxyacetic acid, as the triethylamine salt	14.9%
INERT INGREDIENTS:	69.9%

Acid Equivalents:
4-amino-3,5,6-trichloropicolinic acid 10.7% – 1 lb/gal
2,4,5-trichlorophenoxyacetic acid 10.7% – 1 lb/gal

E.P.A. Registration No. 464-407

USE DIRECTIONS

To Prepare The Spray: TORDON 225 Mixture herbicide may be used in water alone or in oil-water mixes. For oil-water mixes use clear diesel oil or No. 2 fuel oil at a rate of one gallon per acre. For proper mixing, there must be continuous mechanical agitation during the entire mixing period. The amount of TORDON 225 Mixture, water and oil will depend on the final spray concentration and amount of spray mix desired. Regulate agitation and the addition of water to minimize foaming.

For Use With Water Alone: *With moderate agitation, add the required* amount of TORDON 225 Mixture as the tank is filled with the required amount of water.

For Use With Water and Oil: With continuous agitation

1. Add ½ the amount of water to be used to the spray tank.
2. Add the required TORDON 225 Mixture to give the amount needed for the total volume of spray being mixed.
3. Calculate the total volume of oil needed to give 1 gallon of oil for each acre to be treated. Add the required oil to the spray tank after first mixing into it an emulsifier such as TRYAD or TRITON X-100 brands at the rate of ½ pint to each 1 gallon of oil.
4. Finally, after the emulsifiable oil has been added, fill the tank with the remainder of water required to bring the spray volume to the desired amount.

Amount To Use: For control of mesquite in Texas use TORDON 225 Mixture at a rate of 1 or 2 quarts per acre. For best results apply in the spring during the period 40 to 90 days after first green growth appears at the bud and when moisture conditions are favorable for good growth.

To control small patches of mesquite less than 6 feet tall, apply with ground equipment using a spray mixture containing 1 gallon of TORDON 225 Mixture in enough water to give 100 gallons of spray. Spray to thoroughly wet the leaves, stems and trunks.

For aerial application on large areas of mesquite, use at the rate of 1 or 2 quarts of TORDON 225 Mixture plus 1 gallon of oil per acre in enough water to give 4 to 5 gallons total spray. Use the higher rate of TORDON 225 Mixture per acre in South Texas or when moisture and plant growth conditions are less than optimum for best results. Use the lower rate of TORDON 225 Mixture in other mesquite areas of Texas.

Note: One application will usually give satisfactory control for 5 to 10 years or more. However, if a second treatment is necessary, TORDON 225 Mixture may be used in the same manner two years after the first treatment.

Different types of mesquite occur in Texas. Consult your State Agricultural Experiment Station or Extension Service Weed Specialist for local recommendations. Be sure that the use of this product conforms to all applicable State Regulations regarding use of herbicides.

Attention: Many forbs are susceptible to TORDON 225 Mixture. Do not spray pastures containing forbs unless the kill of such can be tolerated. However, the stand of established native grasses is improved after spraying, especially when rainfall is adequate and grazing is deferred.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions or under abnormal conditions, or under conditions not reasonably foreseeable to seller and buyer assumes the risk of any such use.

CAUTION

KEEP OUT OF REACH OF CHILDREN
HARMFUL IF SWALLOWED
CAUSES EYE IRRITATION
MAY CAUSE SKIN IRRITATION
Avoid Contact with Eyes, Skin and Clothing
Avoid Breathing Spray Mists
Wash Well After Handling or Use
Keep Container Closed

When handling concentrate wear suitable eye protection. In case of eye contact, promptly flush with plenty of water, and get medical attention. Remove grossly contaminated clothing and wash before reuse.

USE PRECAUTIONS

Do Not Allow Spray Drift: TORDON 225 Mixture is highly active against most broadleaved plants. Tiny amounts may cause injury to such plants if applied during either growing or dormant periods. Do not use high pressure sprays. Do not apply or otherwise permit TORDON 225 Mixture or sprays containing it to contact desirable plants such as flowers, other ornamental plants, vegetables, grapes, fruit trees, cotton, tobacco, tomatoes, potatoes, beans of all types including soybeans, and other valuable broadleaved plants, nor the soil containing roots of such valuable plants. Apply TORDON 225 Mixture only when there is little or no wind and no hazard from drift. Coarse sprays are least likely to drift.

Do Not Contaminate Water: To avoid injury to crops or other desirable plants, do not treat or allow spray drift to fall onto inner banks or bottom of irrigation and drainage ditches. Dike around and do not irrigate through treated areas. Do not contaminate water used for drinking or other domestic purposes.

Do Not Move Soil From Treated Areas with Land Levelers or By Other Means.

Do Not Treat or Allow Spray Drift on Areas Intended To Be Used For Desirable Broadleaved Plants or Cultivated Food Crops.

Other Precautions: Do not store near food, feedstuff, fertilizer, seeds, insecticides, fungicides or other pesticides. To avoid injury to desirable plants, containers and sprayers used for TORDON 225 Mixture should not be reused to contain or apply other materials.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

Do not use around the home, recreation areas, or similar sites.

Rinse equipment and containers thoroughly with water and dispose of wastes by burying in non-croplands away from water supplies. Containers should be disposed of by punching holes in them and burying with waste.

Be Sure You Follow All Use Precautions Given On This Label and Remember These Key Points

1. **Use only the recommended amounts at the recommended times.**
2. **TORDON 225 Mixture remains active in the soil for extended periods. *Treated soil should not be moved out of treated area.***
3. **TORDON 225 Mixture is water soluble. It can move with water in irrigation or drainage ditches.**
4. ***Spray drift can cause injury to crops.***

U.S. Patent No. 3,285,925

Lot **Gallons**

THE DOW CHEMICAL COMPANY MIDLAND, MICHIGAN 48640

A172

86-1236 PRINTED IN U.S.A. IN JANUARY, 1972.

THIS IS THE INITIAL PRINTING OF THIS SPECIMEN LABEL.

VERTON® 2T
HERBICIDE

A 2,4,5-T Formulation Designed to Control a Broad Range of Undesirable Broadleaf Weeds and Brush by Application as a Thick Invert Emulsion to Minimize Spray Drift.

ACTIVE INGREDIENTS:
2,4,5-Trichlorophenoxyacetic Acid,
Propylene Glycol Butyl Ether Esters 37.2%
INERT INGREDIENTS: 62.8%
Acid Equivalent:
2,4,5-Trichlorophenoxyacetic Acid..... 24.2%—2 lb./gal
E.P.A. Registration No. 464-422

VERTON 2T herbicide is recommended for use alone or as a tank mix combination spray with either VERTON 2D or TORDON® K herbicides to control a broad range of undesirable broadleaf weeds and woody plants growing on **rangeland**, on **right-of-ways** of power and communication lines, pipelines, railroads, and highways; on **forested areas** (for conifer release and site preparation) and on other **agricultural and industrial non-cropland areas.**

USE DIRECTIONS

General Information: VERTON 2T is designed for use as a thick invert water-in-oil spray emulsion to minimize spray drift. The spray can be batch mixed in a single spray tank or flash mixed using two or more separate tanks. See label directions under **How to Prepare the Spray** for details.

Apply sprays containing VERTON 2T using either ground or aerial equipment. When the product is batch mixed, equipment designed for use with high viscosity (thickened) sprays must be used. For additional information on both batch and flash inversion mixing and application equipment consult the "INVERT EMULSION MANUAL" available from The Dow Chemical Company.

VERTON 2T may be applied alone **(Program A)** or in combination with either VERTON 2D **(Program B)** or TORDON K **(Program C)** herbicides. Select the best spray program to use based on specific weed and brush species to be controlled.

NOTE: Do not use a spray program that provides a broader range of species control than needed for practical vegetation management objectives.

For best results spray when foliage is well developed and weeds and brush are growing actively. With good growing conditions and high soil moisture, application can be made up to 2 or 3 weeks before normal fall frost. Control may be less during hot, dry weather when soil moisture is deficient.

HOW TO PREPARE THE SPRAY: Invert emulsions containing VERTON 2T may be formed in a single tank **(Batch Mixing)** or flash inverted **(Flash Mixing)**. Refer to the following directions for method to be used and consult the **"INVERT EMULSION MANUAL"** (available from The Dow Chemical Company) for further details.

Batch Mixing (To be applied from a single spray tank): To a clean, dry spray tank, equipped with good mechanical agitation, and the required amounts of VERTON 2T (plus VERTON 2D if Program B is used) and No. 2 fuel or diesel oil or kerosene and agitate until thoroughly mixed. Then, with continued vigorous agitation, add the required amount of water. If TORDON K is used (Program C), add it **with the water** at this time. After addition and blending of all ingredients and with continued agitation, recycle the mixture through the spray pumping system and back into the tank to develop the required viscosity (thickness). One or two such cycles are usually enough. Minor variations in viscosity may be obtained by adding small amounts of water to increase the thickness or small amounts of oil to decrease the thickness.

Flash Mixing: Two, clean, dry spray tanks are required. To one tank add the required amount of VERTON 2T; add the required amount of water to the other tank. If oil and/or VERTON 2D (Program B) are needed, add them to the VERTON 2T and mix thoroughly.

If TORDON K is used (Program C), thoroughly mix it with the water. If desired, TORDON K may be introduced from a third container to avoid contamination of the water tank. To form the invert emulsion, the contents of each tank are combined in the proper ratio. Further thickening of the emulsion is obtained from shear produced in the mixing system. To ensure the proper ratio of ingredients as selected from the mixing proportion tables, a metering device from each tank is necessary. It also is essential to start flow of the chemical—oil phase prior to introducing the water phase. Be sure to consult manufacturer's "INVERT EMULSION MANUAL" for equipment specifications.

USE PRECAUTIONS

Do not let VERTON 2T or sprays containing it come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton, black locust or other desirable plants that are sensitive to 2,4,5-T, since even minute quantities may cause injury to such plants during either the growing or dormant periods. Applications by either ground or aerial equipment should be made only when there is no hazard from drift. Do not apply by aircraft in the vicinity of cotton, grapes or other desirable 2,4,5-T susceptible vegetation. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby. Excessive amounts of this product in the soil may temporarily stop seed germination or plant growth. Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizer, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for VERTON 2T, except as specified on label.

Local conditions may affect the use of herbicides. State agricultural experiment station or extension service weed specialists in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

Do not use around the home, recreation areas or similar sites.

Carefully note the following points:

1. Before using VERTON 2T with VERTON 2D or TORDON K read and observe all use precautions and statements of hazard given on labels for these products.
2. Even though the inverted emulsion formed by the proper mixing of VERTON 2T is a thicker spray mixture which drifts less than conventional spray mixtures during application, care must still be taken to avoid drift of spray particles onto susceptible plants.
3. Coarse sprays are least likely to drift; therefore, nozzles with large orifices and a low spraying pressure should be used.

   Keep out of lakes, streams and ponds. This product is toxic to fish. Apply this product only as specified on this label.

Cleaning of Equipment and Disposal of Waste: After use, equipment such as tanks, lines, booms, nozzles and containers used in the handling and application of VERTON 2T should be flushed with oil such as kerosene or No. 2 fuel or diesel oil. **Dispose** of flushing and rinse wastes by burying in non-croplands away from water supplies. Punch holes in empty containers and dispose by burying with wastes.

CAUTION

KEEP OUT OF REACH OF CHILDREN
MAY BE HARMFUL IF SWALLOWED • COMBUSTIBLE
Avoid Contact with Eyes, Skin and Clothing
Do not use, pour, spill or store near heat or open flame

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

U. S. Patent No. 3,189,430

472

NET CONTENTS **LOT**

86-1248 PRINTED IN U.S.A. IN APRIL, 1972.

THIS IS THE INITIAL PRINTING OF THIS SPECIMEN LABEL.

SPECIMEN LABEL

PROGRAM A
(VERTON 2T Herbicide)

Species Controlled: For control of broadleaf weeds and woody vines such as:

beggar tick	horsenettle	pigweed
*brambles (blackberry and raspberry)	jimsonweed	plantain
burdock	kochia	radish, wild
cocklebur	*kudzu	ragweed
croton	lambsquarters	shepherdspurse
dandelion	lettuce, prickly	snakeweed
dogfennel	lupine	sneezeweed, bitter
fiddleneck	Mexican weed	sunflower
hemp	morningglory, annual	thistle, Russian
*honeysuckle	mullein	vetch
	mustard	

and other woody species including:

ailanthus	*elm	*oak
alder	grape	osageorange
*ash	*gum	poison ivy
ceanothus	hawthorn	*poison oak
chamise	*hickory	*salmonberry
*cherry	*locust	*sassafras
coyotebrush	madrone	*sweetgum
elder	*maple	willow

*most difficult to control

Amounts to Use: Apply VERTON 2T at the rate of 0.5 to 3 gallons per acre using enough spray volume to provide adequate coverage, usually 15 to 25 gallons of spray mixture per acre. The 0.5 gallon per acre rate will provide temporary suppression of weed growth and may require re-treatment. Use the higher rates and spray volumes for the most difficult to control species. **For rangeland and conifer release** do not exceed 2 gallons of VERTON 2T per acre. Consult your State or Regional Forest or Range Specialist for recommendations to fit local conditions.

Mixing Instructions: Consult label directions under **How to Prepare the Spray** and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of total spray based on the pounds of active ingredient and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray*		
Pounds of 2,4,5-T Acid Equivalent	Total Gallons of Spray	VERTON 2T	Oil	Water
1	15	3.3	6.7	90.0
2	15	6.7	3.3	90.0
	20	5.0	5.0	90.0
	25	4.0	6.0	90.0
3	15	10.0	–	90.0
	20	7.5	2.5	90.0
	25	6.0	4.0	90.0
4	15	13.3	–	86.7
	20	10.0	–	90.0
	25	8.0	2.0	90.0
5	15	16.7	–	83.3
	20	12.5	–	87.5
	25	10.0	–	90.0
6	15	20.0	–	80.0
	20	15.0	–	85.0
	25	12.0	–	88.0

* The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturer's "INVERT EMULSION MANUAL" for additional chemical—oil to water ratios.

PROGRAM B
(VERTON 2T Herbicide *plus* VERTON 2D Herbicide)

Species Controlled: Include those listed under Program A plus the following:

aspen	mallow
*birch	manzanita
bitterweed	marshelder
blueweed, Texas	nightshade
broom, Scotch	onion, wild
broomweed	pepperweed
buckbrush	poplar
buckwheat, wild	*rabbitbrush
*coastal sage	ragwort, tansy
dock	sagebrush, big
eveningprimrose, common	sagebrush, sand
fanweed	starthistle, yellow
garlic, wild	*sumac
halogeton	thistle, musk
hazel	velvetleaf

*most difficult to control

Amounts to Use: Apply VERTON 2T at the rate of 0.25 to 3 gallons per acre with an equal amount of VERTON 2D using enough spray volume to provide adequate coverage, usually 15 to 30 gallons of spray mixture per acre. The lowest rate will provide temporary suppression of weed growth and may require re-treatment. Use the higher rates for most difficult to control species. **For rangeland and conifer release** do not exceed 1 gallon each of VERTON 2T and VERTON 2D per acre. Consult your State or Regional Forest or Range Specialist for recommendations to fit local conditions.

Mixing Instructions: Consult label directions under **How to Prepare the Spray** and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of total spray based on the pounds of active ingredients and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray*			
Pounds of 2,4,5-T + 2,4-D Acid Equivalent	Total Gallons of Spray	VERTON 2T	VERTON 2D	Oil	Water
0.5 + 0.5	15	1.7	1.7	6.6	90.0
1 + 1	15	3.3	3.3	3.3	90.1
	20	2.5	2.5	5.0	90.0
	25	2.0	2.0	6.0	90.0
2 + 2	15	6.7	6.7	–	86.6
	20	5.0	5.0	–	90.0
	25	4.0	4.0	2.0	90.0
3 + 3	15	10.0	10.0	–	80.0
	20	7.5	7.5	–	85.0
	25	6.0	6.0	–	88.0
4 + 4	20	10.0	10.0	–	80.0
	25	8.0	8.0	–	84.0
	30	6.7	6.7	–	86.6
5 + 5	25	10.0	10.0	–	80.0
	30	8.3	8.3	–	83.4
6 + 6	30	10.0	10.0	–	80.0

* The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturer's "INVERT EMULSION MANUAL" for additional chemical—oil to water phase ratios.

PROGRAM C
(VERTON 2T Herbicide *plus* TORDON K Herbicide)

Species Controlled: Include those listed under Programs A and B plus the following annual and perennial broadleaf weeds:

bindweed, field	goldenrod	sowthistle
bouncingbet	knapweed, diffuse	spurge, leafy
bursage	knapweed, Russian	sweetclover
carrot, wild	milkweed	thistle, Canada
chicory	parsnip, wild	toadflax, dalmation
clover	skeletonweed	toadflax, yellow
fleabane		

and unwanted woody species:

bracken fern	fir, Douglas	pine
buttonbush	gorse	sourwood
cedar	hemlock	spruce
dogwood	persimmon	trumpetcreeper
fir, balsam		

The use of TORDON K with VERTON 2T provides better control of rootsuckering species such as aspen, locust, sassafras and sumac than can be obtained using spray Program A or B. **Note: Do not use this program on rangeland or for conifer release.**

Amounts to Use: Always use VERTON 2T with TORDON K in the ratio of 4 parts VERTON 2T and 1 part TORDON K.

Apply each product at the following rates depending on weed and brush species to be controlled.

For annual broadleaf weeds use 2 quarts of VERTON 2T and 1 pint of TORDON K and apply in enough spray volume to obtain adequate coverage, usually 15 to 20 gallons of spray mixture per acre.

For perennial broadleaf weeds and susceptible woody species use 1 to 3 gallons of VERTON 2T and 1 to 3 quarts of TORDON K. Apply in enough spray volume for adequate coverage, usually 15 to 25 gallons of spray mixture per acre.

For difficult to control woody species, such as ash, balsam fir, black spruce, bracken fern, eastern red cedar, gums, hickory, maple, oaks, salmonberry and sourwood, use 3 to 4 gallons of VERTON 2T and 3 to 4 quarts of TORDON K and apply in enough spray volume to obtain adequate coverage, usually 20 to 25 gallons per acre.

NOTE: Always use VERTON 2T with TORDON K in a ratio of 4 parts to 1 respectively. Do not mix VERTON 2T directly with TORDON K; see **How to Prepare the Spray** for proper mixing procedure.

Mixing Instructions: Consult label directions under **How to Prepare the Spray** and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of total spray based on the pounds of active ingredients and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray*			
Pounds of 2,4,5-T + Picloram Acid Equivalent	Total Gallons of Spray	VERTON 2T	Oil	TORDON K	Water
1 + 0.25	15	3.3	6.7	0.8	89.2
	20	2.5	7.5	0.6	89.4
2 + 0.5	15	6.7	3.3	1.7	89.3
	20	5.0	5.0	1.3	88.7
	25	4.0	6.0	1.0	89.0
3 + 0.75	15	10.0	–	2.5	87.5
	20	7.5	2.5	1.9	88.1
	25	6.0	4.0	1.5	88.5
4 + 1.0	15	13.3	–	3.3	83.4
	20	10.0	–	2.5	87.5
	25	8.0	2.0	2.0	88.0
5 + 1.25	15	16.7	–	4.2	79.1
	20	12.5	–	3.1	84.4
	25	10.0	–	2.5	87.5
6 + 1.5	15	20.0	–	5.0	75.0
	20	15.0	–	3.7	81.3
	25	12.0	–	3.0	85.0
7 + 1.75	20	17.5	–	4.4	78.1
	25	14.0	–	3.5	82.5
8 + 2.0	20	20.0	–	5.0	75.0
	25	16.0	–	4.0	80.0

* The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturer's "INVERT EMULSION MANUAL" for additional chemical – oil to water – TORDON K phase ratios.

THE DOW CHEMICAL COMPANY MIDLAND, MICHIGAN 48640

EXHIBIT A

(3) Copy of label for VEON® 245. Use on rice under appeal, I. F. and R. Consolidated Docket Numbers 42, 44, 45 and 48.

SPECIMEN LABEL

VEON® 245 NON-VOLATILE 2,4,5-T AMINE WEED AND BRUSH KILLER

Active Ingredient:
Triethylamine salt of 2,4,5-Trichlorophenoxyacetic Acid..... 56.1%
Inert Ingredients..... 43.9%
2,4,5-Trichlorophenoxyacetic Acid Equivalent 40.2%
A Triethylamine Salt of 2,4,5-T—Total Acid Equivalent
4.0 Pounds per Gallon
E.P.A. Registration No. 464-199-AA

VEON 245 is recommended for use in controlling herbaceous and woody plants growing in right-of-ways, railroad roadbeds, roadsides and industrial sites. **It is effective on such species as**

aspen	elm	hard and soft maple	sassafras
birch	hickory	oak	Virginia creeper
blackberry	honeysuckle	osageorange	wild cherry
elderberry	locust	poison ivy	wild rose

as well as many other woody and herbaceous weeds.

If allowed to stand after mixing, it must be agitated again before using. VEON 245 will not mix with oil and should not be used for stump or basal sprays. VEON 245 is recommended for selective control of broadleaved weeds in rice.

DIRECTIONS

FOLIAGE TREATMENT FOR BRUSH AND TREES: Spray woody growth up to 6 or 8 feet tall after foliage is well developed, using a drenching spray containing 1 gallon of VEON 245 per 100 gallons of water. Coverage should be complete and **all parts of the plants, including foliage, shoot stems and bark,** should be thoroughly wet with the spray. Best results usually will be obtained from applications made soon after maximum foliage development in the spring. Less effective control may result during hot, dry weather. Under good growing conditions, in humid areas, applications made up to three weeks before fall frost are usually effective. (Applications in late summer and fall in some areas, including Texas and Oklahoma, is not recommended.) Spraying after leaves have lost their normal green color and vigor may not give satisfactory control. Repeat applications may be necessary as new growth develops.

WEED CONTROL IN RICE: Treat 4 to 8 weeks after emergence of the rice. Where flooded, treat between 7 and 9 weeks after seeding, when plants have emerged above water surface and leaves are standing erect. Use 1 to 2½ pints of VEON 245 in approximately 5 to 7 gallons of water per acre.

For best results weeds should be young and actively growing. With resistant weeds such as Mexican weed and curly indigo, up to 3 pints of VEON 245 per acre may be necessary, but yield may be reduced. For many weeds 1½ pints per acre may be enough. Treatment after flooding is usually safer than treatment before flooding. Consult your local State Experiment Station or Extension Service for more specific local recommendations.

USE PRECAUTIONS

Do not apply VEON 245 directly to, or otherwise permit it to come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants which are sensitive to 2,4,5-T, and do not permit spray mist containing it to drift onto them, since even minute quantities of the spray may cause injury. (Coarse sprays are less likely to drift.) **Accordingly, applications by airplane, ground rigs and hand dispensers should be carried out only when there is no hazard from drift.** Do not contaminate irrigation ditches or water used for domestic purposes. Do not store near fertilizers, seeds, insecticides or fungicides. Excessive amounts of 2,4,5-trichlorophenoxyacetic acid in the soil may temporarily inhibit seed germination or plant growth. Because of the difficulty of thoroughly cleaning sprayers and other equipment used with 2,4,5-T formulations, such equipment should not be used for handling or applying other agricultural chemicals. Shipping containers should not be re-used for any material which will be applied to desirable vegetation.

Be sure that use and methods of use of this product conform to local regulations. Consult your agricultural agent or experiment agent if in doubt. VEON 245 exposed to sub-freezing temperatures should be warmed to at least 40°F. and mixed thoroughly before using.
Do not use around the home, recreation areas, or similar sites.

NOTE: One tablespoonful in 1½ gallons of water is approximately equivalent to one quart in 100 gallons of water.

WARNING

KEEP OUT OF THE REACH OF CHILDREN
CAUSES IRRITATION OF SKIN AND EYES
Do Not Get in Eyes
Avoid Contact with Skin and Clothing

In case of contact with the undiluted weed killer, flush eyes with plenty of water for at least 15 minutes and get medical attention; wash skin with soap and plenty of water. Remove and wash contaminated clothing before re-use. Do not wear contaminated shoes.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

F971

86-1133 PRINTED IN U.S.A. IN NOVEMBER, 1971.

REPLACES SPECIMEN LABEL 86-1133 PRINTED IN JULY, 1968.

REVISIONS INCLUDE: (1) REVISED DISCLAIMER NOTICE. (2) CHANGED COMPANY SIGNATURE. (3) U.S.D.A. CHANGED TO E.P.A. (4) "DITCH BANKS" DELETED. (5) RESTRICTION ON USE AROUND HOME AND RECREATION AREAS ADDED.

DOW®

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

EXHIBIT A

(4) Copies of currently proposed amended labeling.

Action File - 2,4,5-T - ESTERON 245

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PESTICIDES REGULATION DIVISION
WASHINGTON, D.C. 20250

FORM APPROVED
BUDGET BUREAU NO. 40-R1746

APPLICATION FOR AMENDED REGISTRATION OF ECONOMIC POISONS

(Under the Federal Insecticide, Fungicide, and Rodenticide Act)

1. DATE OF APPLICATION: February 29, 1972

IMPORTANT: READ INSTRUCTIONS ON REVERSE

2. NAME OF ECONOMIC POISON *(Must be same product name as on label—do not list active ingredients)*
ESTERON® 245

RECEIVED
MAR 6 1972

3. NAME & MAILING ADDRESS OF REGISTRANT *(Include Zip Code)*
Dow Chemical U.S.A.
Ag-Organics Department
P. O. Box 1706
Midland, Michigan 48640
Attn.: Robert W. Morgan

4. REGISTRATION NO.: 464-205 REGISTRATION

5. PROPOSED EFFECTIVE DATE OF CHANGE: No later than March 31, 1972

6. NATURE OF REVISION *(Check applicable item and give details in item 7, when required)*

- GENERAL REVISION OF LABELING [X]
- CHANGE IN FORMULATION [ ] *(Give description of exact change in item 7)*
- OTHER [ ] *(Specify in item 7)*
- ADDITIONAL USES ADDED TO LABELING [X] *(List new recommendations in item 7)*
- CHANGE IN PRODUCT NAME [ ] *(Give old name and new name in item 7)*

7. DETAILS REQUIRED BY REVISION CHECKED IN ITEM 6. *(Attach additional sheets if more space is needed)*

The general revision of labeling is reflected by a new format that divides the recommended uses into two major categories i.e. "High Volume Sprays - Ground Equipment" and "Low Volume Sprays - Air or Ground Equipment." This manner of presentation is intended to facilitate user selection of the best treatment method for the vegetation management job to be conducted.

The additional use added to labeling is application of ESTERON 245 as a tank mix combination spray with TORDON 101 Mixture herbicide to obtain improved control of root suckering species and other species often not adequately controlled with 2,4,5-T on right-of-ways and forest planting sites. Three copies of the accompanying compilation so designated are submitted in support of this use.

[ ] CONTINUED ON ATTACHMENT

8. THE FOLLOWING MUST BE SUBMITTED WITH THIS APPLICATION
- Five (5) copies of revised labeling, including any printed or graphic matter which may accompany the sale of this product. Copies must be clearly legible and identical.
- If a change in formulation is involved, five (5) copies of a statement of revised formula showing the precise name and percentage of each active and each inert ingredient. *(This information is treated confidentially)*
- When appropriate, three (3) copies of Supporting Data.

12. RECEIVED BY USDA—PESTICIDES REGULATION DIVISION, WASHINGTON, D. C.

IN ANY CORRESPONDENCE ON THIS PRODUCT REFER TO REGISTRATION NO. IN ITEM 4, ABOVE.

9. SIGNATURE OF AUTHORIZED FIRM REPRESENTATIVE
Robert W. Morgan

10. TITLE: Registration Specialist

11. DATE SIGNED: Feb. 29, 1972

PR FORM 9-198
MAY 1969

EXISTING STOCK OF PR FORM 9-198 (AUG. 1968) WILL BE USED UNTIL EXHAUSTED

ESTERON® 245
June 22, 1973

Not Approved as of
Aug. 13, 1973

ESTERON* 245

Low-Volatile Brush and Weed Herbicide for
Industrial, Forestry, Rangeland and Pasture Uses.

Contains Propylene Glycol Butyl Ether Esters of 2,4,5-T
Acid Equivalent: 4 Pounds per Gallon

For the Control of Trees, Brush and Broadleaf Weeds

CAUTION: KEEP OUT OF REACH OF CHILDREN
Read Complete Precautions on Side Panel } In proper type size

ACTIVE INGREDIENT:

2,4,5-Trichlorophenoxyacetic Acid,
Propylene Glycol Butyl Ether Esters 69.2%

2,4,5-Trichlorophenoxyacetic Acid Equivalent - 45.0% -
4 Pounds per Gallon

INERT INGREDIENTS: 30.8%

E.P.A. Registration No. 464-205

DIRECTIONS

ESTERON 245 herbicide is recommended for industrial vegetation control in forest areas; on right-of-ways, such as communication lines, electrical powerlines, pipelines, highways, and railroads; fence rows; and on rangelands and pastures. This herbicide controls herbaceous and woody plants including such 2,4-D resistant species as -- ash, black gum, brambles, groundcherry, hawthorn, horsenettle, maple, mesquite, oak, osageorange, palmetto, poison ivy, pricklypear cactus, redbay, salmonberry, sweetgum, wild blackberry, wild rose, and certain species of Ribes. Do not apply ESTERON 245 where spray drift may contact nearby 2,4,5-T susceptible crops or other desirable plants or may contaminate water intended for irrigation or domestic purposes. Read and follow all Use Precautions given on this label.

PREPARING THE SPRAY

Use only diesel oil, No. 1 or No. 2 fuel oil or kerosene where oil is recommended in the spray mixture.

Oil Sprays: Add ESTERON 245 to the required amount of oil in the spray tank or mixing tank and mix thoroughly. This mixture can be made at any time before actual use and no separation will occur. Do not let any water, or oil-water mixture sprays get into the ESTERON 245 or into the finished mixture, as it may form a gel.

Water Sprays: Fill the spray tank about half full with clean water, add the required amount of ESTERON 245 and complete filling the tank. Mix thoroughly and continue agitation while spraying. Caution: See NOTE in paragraph on Oil-Water Mixture Sprays.

Oil-Water Mixture Sprays: When vigorous agitation is used, 1 gallon of ESTERON 245 will emulsify up to 10 gallons of oil in 100 gallons of spray mixture. First, premix the ESTERON 245 and oil in a separate container. Do not allow any water or mixtures containing water to get into the ESTERON 245 or the premix. Fill the spray tank about half full with water, then slowly add the premix with continuous agitation and complete filling the tank with water. If the premix is put in the tank without any water, the first water added may form a thick "invert" (water in oil) emulsion which will be hard to break. As an alternate procedure, the oil may be added after the ESTERON 245 is mixed in the water; but highly vigorous mechanical agitation is required and a poor emulsion may be formed. The premix method is preferred.

NOTE: ESTERON 245 in water or oil-water sprays forms an emulsion, not a solution, and separation may take place unless sprays are agitated continuously. Mechanical agitation is recommended.

INDUSTRIAL WEED CONTROL INCLUDING FORESTRY USES

HIGH VOLUME SPRAYS

Foliage Treatment: For control of woody vegetation up to 8 feet tall, apply when foliage is well developed and plants are actively growing. Spraying during prolonged hot, dry weather or after leaves have lost their normal green color and vigor may not give satisfactory control. Use 3 to 4 quarts of ESTERON 245 in 100 gallons of water and apply as a full coverage spray Usually 100 to 200 gallons per acre will be required although dense stands of brush may require up to 400 gallons per acre. Completely wet all plant parts including leaves, stems and bark. Poison ivy, some brambles and many broadleaf weeds may be controlled using 2 quarts of ESTERON 245 in 100 gallons of water.

To obtain improved control of rootsuckering and other species often not adequately controlled with 2,4,5-T, ESTERON 245 may be used in a tank mix combination spray with TORDON® 101 Mixture herbicide. Apply this treatment only on right-of-ways and for forest site preparation. Use 2 quarts of ESTERON 245 plus 1 gallon of TORDON 101 Mixture in 100 gallons of water. Do not add oil. Apply as a full coverage spray to completely wet all foliage, stems and bark. This will usually require 100 to 400 gallons of spray mixture per acre. To keep the spray uniformly mixed, it is essential to maintain good agitation in the spray tank. See note under Forest Site Preparation.

To control grasses as well as broadleaf weeds and woody plants on conifer forest planting sites, ESTERON 245 may be used in a tank mixture with DOWPON® grass herbicide. Consult label directions and precautions for DOWPON to determine recommended use of this product.

Basal Bark Treatment: Brush and small trees can be controlled by spraying the basal parts of brush stems and tree trunks to a height of 12 to 15 inches from the ground line. Use a solution of 3 gallons of ESTERON 245 in 100 gallons (1 pint in 4 gallons) of oil. With certain resistant species, 4 gallons of ESTERON 245 in 100 gallons (1 pint in 3 gallons) of oil, is effective. As only the basal portions of the brush are treated on a spot basis, the total amount sprayed per acre would not be expected to exceed 100 gallons. Knapsack or power equipment may be used, but complete wetting of the indicated area is necessary, particularly at the ground line. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray than young or smooth bark. Low pressures are desirable. Apply at any time, including the winter months, except when snow, ice or water prevent spraying to the ground line. Often delayed response and killing can be expected.

Dormant Brush: Treat any time after brush is dormant and most of the foliage has dropped. Spray should be concentrated at the base of stems and in addition, the upper parts of the stems should be broadcast sprayed enough to wet them.

Under rootsuckering species such as sumac, persimmon, sassafras and locust, also spray the ground area to control small root suckers that may not be readily visible. Mix 1 1/2 gallons of ESTERON 245 in 100 gallons of oil. Brush of average density and 4 to 6 feet high may take up to 150 gallons of spray mixture per acre.

Stump Treatment: Where growth is more than 6 to 8 feet tall, cut it close to the ground and spray the freshly cut stumps and stubs with 3 gallons of ESTERON 245 in 100 gallons (1 pint in 4 gallons) of oil, mixed thoroughly. For more resistant species, use 4 gallons of ESTERON 245 in 100 gallons (1 pint in 3 gallons) of oil. Wet thoroughly all exposed bark, as well as cut surfaces. This means spraying until run-down or run-off to the ground line is noticeable. Old or rough bark requires more spray volume than young or smooth bark. Apply at any time, including the winter months, except when ice, snow or water prevent spraying to the ground line. Best results are obtained on freshly cut stumps two inches across or larger. Adequate coverage normally requires from 10 to 100 gallons per acre depending on density of stumps and stubs.

"Frill" Treatment: For large trees, make a singlehack girdle or "frill" of overlapping axe cuts completely arqund the tree as close to the ground as feasible. Spray the frill thoroughly using a mixture of 2 gallons of ESTERON 245 in 100 gallons (1/2 pint in 3 gallons) of oil.

Spot Foliage Treatment: Use 1/4 pint of ESTERON 245 in 3 gallons of water and spray to wet all foliage, shoots, stems and bark without runoff.

INDUSTRIAL WEED CONTROL INCLUDING FORESTRY USES
LOW VOLUME SPRAYS

Apply low volume sprays containing ESTERON 245 when foliage is well developed and plants are actively growing. For best results on woody species, soil moisture should be sufficient to promote foliar growth. Spraying during prolonged hot, dry weather or after leaves have lost their normal green color and vigor may not give satisfactory control. Make ground applications using equipment that will assure particle breakup and uniform coverage of the low spray volumes applied. Air applications should provide uniform coverage of target areas.

Note: Apply low volume sprays by air or ground only when there is little or no wind or other conditions that may cause spray to drift from area treated.

Right-of-Ways and Forest Site Preparation:

Foliage Treatment - Use 1 to 3 gallons of ESTERON 245 in enough water to make 10 to 30 gallons of total spray per acre. If desired, oil can be added to the spray in accordance with directions for "Oil-Water Mixture Sprays" given under PREPARING THE SPRAY. For improved control of root-suckering species and other species often not adequately controlled with 2,4,5-T, ESTERON 245 may be used with TORDON 101 Mixture herbicide in a tank mix combination spray. Use 1 to 1 1/2 gallons of ESTERON 245 plus 2 to 3 gallons of TORDON 101 Mixture per acre by diluting with water to a total spray volume of 10 to 30 gallons per acre. Do not add oil or NORBAK® particulating agent to the spray. Aerial applications of the tank mixture should be made only with a helicopter mounted Microfoil applicator or an equipment system providing equivalent drift control.

NOTE: Do not plant conifer seedlings on treated areas for at least 6 months after applying 2 gallons of TORDON 101 per acre in such a tank mix. Delay planting for 12 months after applying more than 2 gallons of TORDON 101 per acre in such a tank mixture.

Basal Treatment Using Powered Knapsack Sprayer - Mix 1 1/2 to 2 gallons of ESTERON 245 with fuel oil or kerosene to make 20 gallons of total spray solution. Apply with a portable knapsack mistblower to all sides of lower brush stems including the root collar. Good coverage of the root collar is essential for best results. Run mistblower at 1/4 to 1/3 throttle for best spray delivery and coverage. For maximum drift control use a basal nozzle attachment and do not raise nozzle above the horizontal position.

Forest Conifer Release by Air or Ground Sprays:

Oil Spray - Apply 2 to 3 quarts of ESTERON 245 in about 10 gallons of oil per acre to control undesired hardwoods in dormant Douglas fir, true fir, hemlock and spruce. Rates higher than 2 quarts may cause conifer injury. Do not use this spray on pines (note section below for pine recommendation). Apply before conifer bud break during late dormancy, usually February and March in the northwest. Application of this spray after conifer bud break can injure the conifers.

Water Spray - Apply 2 to 3 quarts of ESTERON 245 in 10 to 15 gallons of water per acre to control hardwood species in

conifers including pines. Apply during the summer after the conifers cease spring growth and have "hardened off". Rates higher than 2 quarts may cause conifer injury.

Consult your State, Regional or Extension Forester for recommendations to fit local conditions.

RANGELAND AND PASTURES

RANGELAND - AIR APPLICATION FOR BRUSH CONTROL

Consult the Agricultural Experiment Station, your local Extension Service Weed or Range specialist for best time to treat and need for re-treatment in your area. Do not use from early boot to milk stage where grass seed production is desired.

Mesquite: Use 1 pint of ESTERON 245 plus 1/2 to 1 gallon of oil in enough water to make 4 gallons of total spray per acre. Apply 40 to 90 days after first leaves appear.

Sand Shinnery Oak: Use 1/2 to 1 quart of ESTERON 245 plus 1 gallon of oil in enough water to make 4 gallons of total spray per acre.

Post and Blackjack Oaks: Use 2 quarts of ESTERON 245 plus 1 gallon of oil in enough water to make 4 to 6 gallons of total spray per acre.

PASTURE - FOR BROADLEAF WEED CONTROL

Use 2 to 3 quarts of ESTERON 245 per acre by aircraft or ground equipment in the amount of water needed to obtain uniform application. Apply when weeds are in full leaf and after grass is well established. Do not apply on stoloniferous grasses such as bent and bermuda or on forage legumes because these can be injured or killed. Do not apply on newly seeded areas, and do not use from early boot to milk stage where grass seed production is desired. Note: Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

USE PRECAUTIONS

Do not apply ESTERON 245 directly to, or otherwise permit it to come into direct contact with, vegetables, flowers, grapes, fruit trees, ornamentals, cotton, black locust or other desirable plants which are sensitive to 2,4,5-T and do not permit spray mists containing it to drift onto them, since even very small amounts of the spray may cause severe injury during both growing and dormant periods. Use coarse sprays to minimize drift. With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre;

by using no more than 20 pounds spraying pressure with flat fan or flooding flat fan nozzle tips; by spraying when wind velocity is low; and by stopping all spraying when wind exceeds 6 to 7 miles per hour. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray. With aircraft application, drift can be lessened by applying not less than 5 gallons of spray per acre; by using no more than 20 pounds spray pressure at the nozzles; by using nozzles which produce a coarse spray pattern; and by spraying only when the wind velocity is less than 5 miles per hour.

If a tank mix is used containing TORDON 101 Mixture read and follow all use and handling precautions given on both labels.

Applications by aircraft, ground rig and hand dispenser should be carried out only when there is no hazard from spray drift. Do not apply in the vicinity of cotton, grapes, tomatoes or other desirable 2,4,5-T susceptible crop or ornamental vegetation. Do not spray when the wind is blowing towards susceptible crops or ornamental plants.

At high temperatures (above 95°F) vapors from this product may injure susceptible plants growing nearby. Do not use in or near a greenhouse. Excessive amounts of this herbicide in the soil may temporarily inhibit seed germination or plant growth.

Do not use around the home, recreation areas or similar sites. Do not use on susceptible grasses, such as bent, except for spot spraying, nor on freshly seeded areas until grass has become well established. (Most legumes are usually damaged or killed).

This product is toxic to fish. Keep out of lakes, streams, and ponds. Do not apply where run-off is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not contaminate irrigation ditches or water used for irrigation or domestic purposes. This product can be stored in an unheated building but if exposed to subfreezing temperatures, should be warmed to at least 40°F and mixed thoroughly before using. Do not store near fertilizers, seeds, insecticides or fungicides. Do not reuse containers. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used with ESTERON 245 except as specified on this label.

Rinse equipment and containers and dispose of waste by burying in non-crop lands away from water supplies. Containers should be disposed by punching holes in them and burying with waste or follow official local recommendations for container disposal.

Local conditions may affect the use of herbicides. Consult your State Agricultural Experiment Station or Extension Service weed specialist for advice in selecting treatments from this label to best fit local conditions. Be sure that use of this product conforms to all applicable regulations. Apply this product only as specified on this label.

CAUTION

KEEP OUT OF REACH OF CHILDREN

MAY BE HARMFUL IF SWALLOWED

MAY CAUSE IRRITATION

Avoid Contact with Eyes, Skin and Clothing

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Net Contents _____ Lot _____

THE DOW CHEMICAL COMPANY

and Subsidiaries

Midland, Michigan 48640, USA Zurich, Switzerland

Hong Kong, BCC Coral Gables, Florida 33134, USA

Sarnia, Ontario, Canada

*Trademark of The Dow Chemical Company

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PESTICIDES REGULATION DIVISION
WASHINGTON, D.C. 20250

FORM APPROVED
BUDGET BUREAU NO. 40-R1746

APPLICATION FOR AMENDED REGISTRATION OF ECONOMIC POISONS

(Under the Federal Insecticide, Fungicide, and Rodenticide Act)

IMPORTANT: READ INSTRUCTIONS ON REVERSE

1. DATE OF APPLICATION: March 12, 1973

2. NAME OF ECONOMIC POISON *(Must be same product name as on label—do not list active ingredients)*

TORDON® 225 Mixture

3. NAME & MAILING ADDRESS OF REGISTRANT *(Include Zip Code)*

Dow Chemical U.S.A.
P. O. Box 1706
Midland, Michigan 48640

Attn: A. E. Schober

4. REGISTRATION NO.: 464-407

5. PROPOSED EFFECTIVE DATE OF CHANGE: May 1, 1973

6. NATURE OF REVISION *(Check applicable item and give details in item 7, when required)*

- GENERAL REVISION OF LABELING ☐
- CHANGE IN FORMULATION ☐ *(Give description of exact change in item 7)*
- OTHER ☐ *(Specify in item 7)*
- ADDITIONAL USES ADDED TO LABELING ☒ *(List new recommendations in item 7)*
- CHANGE IN PRODUCT NAME ☐ *(Give old name and new name in item 7)*

7. DETAILS REQUIRED BY REVISION CHECKED IN ITEM 6 *(Attach additional sheets if more space is needed)*

This application is to add control of additional woody plant species associated with mesquite on rangeland and permanent grass pastures in Texas to the label. Data to support these claims are being submitted in triplicate.

ACKNOWLEDGMENT

RECEIVED
MAY 17 1973
REGISTRATION

☐ CONTINUED ON ATTACHMENT

8. THE FOLLOWING MUST BE SUBMITTED WITH THIS APPLICATION

- Five (5) copies of revised labeling, including any printed or graphic matter which may accompany the sale of this product. Copies must be clearly legible and identical.
- If a change in formulation is involved, five (5) copies of a statement of revised formula showing the precise name and percentage of each active and each inert ingredient. *(This information is treated confidentially)*
- When appropriate, three (3) copies of Supporting Data.

9. SIGNATURE OF AUTHORIZED FIRM REPRESENTATIVE: A. E. Schober

10. TITLE: Registration Specialist

11. DATE SIGNED: 3/12/73

12. RECEIVED BY USDA-PESTICIDES REGULATION DIVISION, WASHINGTON, D. C.

IN ANY CORRESPONDENCE ON THIS PRODUCT REFER TO REGISTRATION NO. IN ITEM 4, ABOVE.

PR FORM 9-198
MAY 1969

EXISTING STOCK OF PR FORM 9-198 (AUG. 1968) WILL BE USED UNTIL EXHAUSTED

Label Copy
TORDON® 225 Mixture
MAR 12 1973

TORDON® 225 Mixture

Herbicide

For Control of Mesquite and Associated Woody Species on Rangeland and Permanent Grass Pastures in Texas

CAUTION: KEEP OUT OF REACH OF CHILDREN
Read Complete Precautions on Side Panel } In proper type size

ACTIVE INGREDIENTS:

Picloram (4-amino-3,5,6-trichloropicolinic acid) as the triethylamine salt..... 15.2%

2,4,5-T (2,4,5-trichlorophenoxyacetic acid) as the triethylamine salt..... 14.9%

INERT INGREDIENTS:..... 69.9%

Acid Equivalents:

Picloram 10.7%-1 lb./gal.

2,4,5-T 10.7%-1 lb./gal.

E.P.A. Registration No. 464-407

USE DIRECTIONS

Read and Follow All Use Precautions Given on this Label.

General Information

TORDON 225 Mixture herbicide is recommended for control of mesquite and associated woody and herbaceous broadleaf plant species infesting rangeland and permanent grass pastures in Texas. Applications made according to label directions usually give excellent control of most annual and perennial herbaceous broadleaf weed species. Certain more resistant perennial herbaceous species and woody plants may require repeat treatment in subsequent years. Woody species controlled include:

blackbrush	mesquite
catclaw acacia	pricklypear cactus
granjeno (spiny hackberry)	redberry juniper
huisache	skunkbush
Macartney rose	tasajillo

twisted acacia

TORDON 225 Mixture at recommended rates usually provides moderate to good top-kill but only partial root-kill of the following species:

lotebush	whitebrush
oaks	winged elm

yaupon

Note: Many forbs are susceptible to TORDON 225 Mixture. Do not spray pastures containing forbs, especially legumes, unless injury to such plants can be tolerated. However,

the stand and growth of established native grasses is improved after spraying, especially when rainfall is adequate and grazing is deferred.

Preparing the Spray

TORDON 225 Mixture may be used in water alone or in oil-water mixes. For oil-water mixes, use diesel fuel, fuel oil or kerosene at the rate of 1 gallon per acre. To ensure proper mixing, maintain continuous, vigorous mechanical agitation during the entire mixing period. Regulate agitation and the addition of water to minimize foaming.

For Use With Water Alone: With moderate agitation, add the required amount of TORDON 225 Mixture as the spray tank is filled with the required amount of water.

For Use With Water and Oil - (*Batch Mixing*): With continuous, vigorous agitation:

1. Add half the amount of water to be used to the spray tank.

2. Add the amount of TORDON 225 Mixture required for the total volume of spray being mixed.

3. Premix the required amount of oil with an emulsifier such as TRYAD or TRITON X-100 brands using 1 ounce of emulsifier per gallon of oil. Add the oil-emulsifier premix to the spray tank.

4. Finally, add the remaining amount of water required to bring the spray batch to the desired total volume.

5. Maintain agitation in the spray tank during application.

For Use With Water and Oil - (*Meter Mixing*): Water-oil sprays containing TORDON 225 Mixture may also be prepared using the spray tank "loading" pump to mix the ingredients while filling the tank. This procedure involves simultaneous metering of the required amounts of water-herbicide and oil-emulsifier mixtures into the intake line of the pump during operation. Since emulsification is accomplished in the pump, it is important that a pump with moderate to high shearing action be used. For proper results, always introduce the water-herbicide premix into the intake line before introducing the oil-emulsifier, or a thick, invert emulsion may result. Maintain agitation in the spray tank during application.

Dosage and Application Directions

TORDON 225 Mixture is recommended for use at the rate of 1 to 2 quarts per acre. Use the 2 quart rate in areas with a high percentage of mixed brush species. Use the 1 quart rate where mesquite is the principal species to be controlled. For best results apply in the spring during the period 40 to 90 days after first green growth appears at the bud and when moisture conditions are favorable for good growth.

Fall applications are effective for control of blackbrush, granjeno, small huisache and Macartney rose when soil moisture is adequate for good plant growth. Fall applications are not effective on mesquite.

Aerial Application: For treatment of large areas of mesquite or other susceptible brush species by air, use 1 to 2 quarts of TORDON 225 Mixture plus 1 gallon of oil per acre in enough water to give 4 to 5 gallons of total spray per acre.

Ground Application - Broadcast Spraying: To control low growing species and regrowth apply 1 to 2 quarts TORDON 225 Mixture in 10 to 25 gallons of water per acre. Add 1 to 2 quarts agricultural surfactant per 100 gallons of mixed spray to provide improved wetting of weed and brush foliage.

Ground Application - Spot Spraying: To control small patches of mesquite and other susceptible species, apply a spray containing 1 gallon TORDON 225 Mixture plus 1 to 2 quarts agricultural surfactant per 100 gallons of water. Spray to thoroughly wet foliage, stems and trunks.

Note: Repeat applications may be made in successive years if more complete control is desired; however, do not apply more than a total of 4 quarts of TORDON 225 Mixture per acre during any 5 year period. Consult your Extension Weed Specialist for local recommendations. Be sure that use of this product conforms to all applicable State and Federal regulations regarding use of herbicides.

USE PRECAUTIONS

Use this product only as directed on this label.

Do Not Allow Spray Drift: TORDON 225 Mixture is highly active against most broadleaf plants. Very small amounts

may cause injury to such plants if applied during either growing or dormant periods. Do not apply or otherwise permit TORDON 225 Mixture or sprays containing it to contact desirable plants nor the soil containing roots of desirable plants such as flowers and other ornamentals, vegetables, grapes, fruit and shade trees, cotton, tobacco, tomatoes, potatoes, beans of all types including soybeans, plus numerous other valuable plants. Apply TORDON 225 Mixture only when wind is less than 10 miles per hour. Coarse sprays produced with low spraying pressure are least likely to drift. Do not use high pressure sprays or fine droplet spray nozzles.

Do Not Contaminate Water: To avoid injury to crops or other desirable plants, do not contaminate irrigation ditches or water intended for irrigation or domestic purposes. Do not treat or allow spray drift to fall onto inner banks or bottom of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation purposes. Keep out of any body of water.

Do Not Move Treated Soil: Do not go over treated areas with land levelers or move the soil from treated areas to untreated areas by any other means.

Do Not Treat or Allow Spray Drift on Areas Being Used or Intended to be Used for Growing Desirable Broadleaf Plants or Cultivated Food Crops.

Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.

Do not use around the home, recreation areas, or similar sites.

Other Precautions: Do not store near food, feedstuff, fertilizer, seeds, insecticides, fungicides or other pesticides.

To avoid injury to desirable plants, containers for TORDON 225 Mixture should not be reused. Rinse equipment and containers thoroughly with water and dispose of rinse waste by burying in non-croplands away from water supplies. Dispose of containers by punching holes in them and burying with waste. Sprayers must be thoroughly cleaned before reuse.

Be Sure To Follow All Use Precautions Given on This Label And Remember These Key Points:

1. Use only the recommended amounts of TORDON 225 Mixture at the recommended times.

2. TORDON 225 Mixture remains active in the soil for extended periods. Treated soil should not be moved out of treated areas.

3. TORDON 225 Mixture is water soluble. It can move with water in irrigation and drainage ditches. Do not contaminate water.

4. Spray drift can cause injury to certain crops, ornamentals, trees and numerous other desirable plants.

CAUTION

KEEP OUT OF REACH OF CHILDREN

HARMFUL IF SWALLOWED

CAUSES EYE IRRITATION

MAY CAUSE SKIN IRRITATION

Avoid Contact with Eyes, Skin, and Clothing

Avoid Breathing Spray Mists

Wash Well After Handling or Use

Keep Container Closed

When handling concentrate, wear suitable eye protection. In case of eye contact, promptly flush contaminated eyes with plenty of water and get medical attention. Remove grossly contaminated clothing and wash before reuse.

U. S. Patent No. 3,285,925

Net Contents _____ Lot No. _____

THE DOW CHEMICAL COMPANY
Midland, Michigan 48640

EXHIBIT A

(5) List of Currently Registered Uses of 2,4,5-T.

2,4,5-TRICHLOROPHENOXYACETIC ACID*

PRINCIPAL FORMULATIONS: EC esters; amine salts

TYPE PESTICIDE: Herbicide

	USE	TOLERANCE (ppm)	DOSAGE	LIMITATIONS
			lb. actual/A.	
**	Pastures: Grasses	Extended	3	Apply when weeds are in full leaf and after grass is well established. Do not graze dairy animals on treated areas within 6 weeks after application. Do not graze meat animals on treated areas within 2 weeks of slaughter.
**	Rangeland clearance	Extended	4	Apply in spring by airplane when brush is in heavy foliage stage (40-90 days after leaves unfold). Do not graze dairy animals on treated areas within 6 weeks after application. Do not graze meat animals on treated areas within 2 weeks of slaughter.

*2,4,5-T

LIST OF CURRENTLY REGISTERED USES OF 2,4,5-T
(NON-AGRICULTURAL)

USE	DOSAGE lb/___gallons (unless otherwise stated)	LIMITATIONS
Rights of way * **		
Spot	0.5/3	
Foliage	3-4/100	
Basal bark	12-16/100	
Dormant	6/100	
Stump	12-16/100	
Frill	12/100	
Fence rows and Farmyards **		Do not graze dairy animals on treated areas within 6 weeks after application. Do not slaughter meat animals grazing on treated areas within 2 weeks after application.
Spot	0.5/3	
Foliage	3-4/100	
Basal bark	12-16/100	
Dormant	6/100	
Stump	12-16/100	
Frill	12/100	
Forestry **		
Forest site preparation	4-12 lb/A	
Conifer release	2 lb/A	
General brush control	3-16 lb/A	

*Rights-of-way are: power lines, communication lines, pipe lines, highways, and railroads

**For the control of many kinds of unwanted brush and trees, and most herbaceous weeds.