

Mr. Douglas M. Raby
Dow Chemical U.S.A.
P.O. Box 1706
Midland, MI 48640-1706

SEP 9 1988

Dear Mr. Raby:

Subject: Acute Toxicology Data (NKID Nos. 405960-01 through -05)
Tordon 101 Mixture Weed and Brush Killer
EPA Registration No. 464-306
Your Submission Dated April 18, 1988

This is to acknowledge receipt of the five studies above. We will review these studies in conjunction with reregistration reviews of toxicology data required in the 2,4-D Registration Standard, to be issued shortly.

The labeling accompanying this submission is acceptable provided you:

1. Make the following change before releasing the product for shipment bearing amended labeling: Modify "Do not contaminate water . . . by cleaning of equipment . . ." to read "Do not contaminate water . . . when disposing of equipment washwaters."
2. Submit one (1) copy of final printed labeling incorporating the above changes.

A stamped copy of labeling is enclosed for your records.

When the 2,4-D and Picloram reregistration documents are issued there will be additional labeling requirements.

Sincerely yours,

Richard F. Mountfort *RFM*
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (TS-767C)

Enclosure
51068;1;Mountfort;MF-12;KENC0:9/7/88;9/16/88;rw:psr;vo:rw

CONCURRENCES

SYMBOL								
SURNAME								
DATE								

RESTRICTED USE PESTICIDE

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

Tordon* 101 Mixture Weed and Brush Killer

Active Ingredient(s):

Picloram (4-amino-3,5,6-trichloropicolinic acid), as the triisopropanol-amine salt 10.2%
2,4-Dichlorophenoxyacetic Acid, as the triisopropanol-amine salt 39.6%

Inert Ingredients 50.2%

ACID EQUIVALENTS:

Picloram (4-amino-3,5,6-trichloropicolinic acid) - 5.7% - 0.54 lb/gal
2,4-Dichlorophenoxyacetic acid - 21.2% - 2 lb/gal
E.P.A. Registration No. 464-306
E.P.A. Est. 464-MI-1

ACCEPTED
with COMMENTS
EPA Letter Dated:

SEP 9 1988

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, this pesticide is
registered under FIFRA title

Environmental Hazards
Do not apply directly to any body of water.
Do not contaminate water used for irrigation
or domestic purposes by cleaning of
equipment or disposal of wastes. Do not
allow run-off or spray to contaminate wells,
irrigation ditches or any body of water used
for irrigation or domestic purposes. Do not
make application when circumstances favor
movement from treatment site. See
additional precautionary statements
elsewhere on this label.

KEEP OUT OF REACH OF CHILDREN

INSERT A

CAUTION

AVISO:

PRECAUCION AL USUARIO:

Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

- ~~CAUSES EYE INJURY • MAY CAUSE~~
- ~~ALLERGIC SKIN REACTION • MAY CAUSE~~
- ~~SKIN IRRITATION • HARMFUL IF~~
- ~~SWALLOWED~~

- ~~Avoid Contact with Eyes, Skin and Clothing~~
- ~~Wash Well After Handling or Use • Keep~~
- ~~Container Closed • When handling~~
- ~~concentrate wear suitable eye protection~~
- ~~and impervious gloves • Remove~~
- ~~contaminated clothing and wash before~~
- ~~reuse~~

STATEMENTS OF PRACTICAL TREATMENT: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention promptly. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician. Do not induce vomiting or give anything by mouth to an unconscious person. In case of skin contact, flush skin with plenty of water. Get medical attention if irritation persists.

Physical or Chemical Hazards

COMBUSTIBLE • Do Not Use or Store Near Heat or Open Flame. • Do Not Cut or Weld Container.

NOTICE

Read the entire label. Use only according to label directions. Before buying or using this product, read "WARRANTY LIMITATIONS AND DISCLAIMER" elsewhere on this label. If terms are not acceptable, return unopened package at once to seller for full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under "WARRANTY LIMITATIONS AND DISCLAIMER."

IN CASE OF AN EMERGENCY:

endangering life or property involving this product, call collect 517-636-4400

AGRICULTURAL CHEMICAL

Do Not Ship or Store with Food, Feeds, Drugs, or Clothing

Tordon* 101 Mixture

GENERAL INFORMATION

TORDON 101 Mixture weed and brush killer is recommended for control of unwanted annual and perennial broadleaved weeds and woody plants and vines on forest planting sites and non-crop areas including industrial manufacturing and storage sites, right-of-ways such as electrical power lines, communication lines, pipelines, highways and railroads.

Among the annual and perennial broadleaved weeds controlled by TORDON 101 Mixture are:

Bindweed, Field	Goldenrod	Rush Skeleton
Bouncingbet	Horsenettle	Weed
Carrot, Wild	Knapweed	Sowthistle
Chicory	Milkweed	Spurge, Leafy
Clover	Plantain	Starthistle, yellow
Dandelion	Prickly Lettuce	Thistles
Dock	Ragweed	Toadflax
Flabene	Ragwort, Tansy	Vetch

Among the woody plants and vines controlled by TORDON 101 Mixture are:

Allanthus	Fir, Balsam	Persimmon
Alder	Gorse	Pine
Aspen	Gum	Poison Oak
Birch	Hemlock	Sassafras
Blackberry	Hickory	Sourwood
Bracken Fern	Honeysuckle	Spruce
Buttonbush	Kudzu	Sumac
Cherry	Locust	Tulip Poplar
Douglas Fir	Maple	Wild Rose
Elm	Oak	Willow

DIRECTIONS FOR USE

Do not use for manufacturing or formulating.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product through any type of irrigation system.

Use TORDON 101 Mixture weed and brush killer at rates of 1/2 to 3 gallons per acre to control broadleaved weeds and at rates of 1 to 4 gallons per acre to control woody plants and vines. TORDON* 101 Mixture may be tank mixed with GARLON* 4, GARLON 3A Herbicides, or 4 lb/gal 2,4-D low-volatile esters registered for sites listed on this label to control mixed woody plant and vine species. When tank mixing, observe all precautions, directions, and limitations on both products labeling. In all cases use the amounts specified in enough water to give thorough and uniform coverage of the plants to be controlled. Note: TORDON 101 Mixture does not mix readily with oil.

OBSERVE ALL USE PRECAUTIONS LISTED ON THIS LABEL

HIGH VOLUME LEAF-STEM TREATMENT: Use TORDON 101 Mixture at the rate of 1 gallon in water to make 100 gallons of spray to control broadleaved weeds, vines and other woody plants. To control a wider range of plant species, mix 1/4 to 1/2 gallon of TORDON 101 Mixture with 1/4 to 1/2 gallon of GARLON 3A, GARLON 4 or 4 lb/gal 2,4-D low-volatile ester and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a manner to give thorough spray coverage. For woody plants, up to 6 to 8 feet tall, use a drenching spray and wet all leaves, stems, and root collars. For hard-to-kill species, such as ash and oak, soak the soil around the root collar. Note: Do not allow the spray, even as minute amounts of spray drift, to contact desirable broadleaf plants, and do not soak the soil over roots of such plants.

BROADCAST GROUND OR AERIAL FOLIAGE TREATMENT: For these uses the required amount of TORDON 101 Mixture should be applied in a total spray volume of 5 to 50 gallons per acre, depending upon the plant species, height and density of growth. The preferred volume range is 15 to 50 gallons per acre.

Broadleaved Annual and Perennial Weed and Woody Vine Control: Use TORDON 101 Mixture weed and brush killer at rates of 2 quarts to 3 gallons per acre in 15 to 50 gallons of a water spray mixture. Apply to problem weeds and vines any

time after growth begins in the spring and late in summer or fall. For seasonal control of vigorously growing stands of field bindweed, Canada thistle or mixtures of these with susceptible annual weeds such as ragweed, dandelion, plantain, clovers and dock use 2 to 3 quarts of TORDON 101 Mixture per acre in 15 to 50 gallons of water spray. In arid areas and for control of more resistant perennial weeds use 1 to 3 gallons of TORDON 101 Mixture per acre in 15 to 50 gallons of spray. Use 1 to 1.5 gallons per acre to control species such as Canada thistle, field bindweed and milkweed. The higher rates should be used under drought stress conditions and for the more resistant species such as bouncingbet, leafy spurge, toadflax and woody vines. The spectrum of activity can be improved by tank mixing 1/2 to 1 gallon of TORDON 101 Mixture with 1/3 to 1 gallon of GARLON 3A or 1 to 3 quarts of GARLON 4 per acre.

Woody Plant Control: Use TORDON 101 Mixture at the rate of 1 to 4 gallons per acre in 15 to 50 gallons of a water spray mixture. For susceptible seedling stages of species such as aspen, cherry, and sumac use 1 to 1.5 gallons of TORDON 101 Mixture per acre in 15 to 50 gallons of a water spray mixture. For more mature and/or less susceptible species such as poison oak, blackberries, Douglas fir, willow, buttonbush, black locust, sassafras, sumac, tulip poplar and cherry use 2 to 2.5 gallons of TORDON 101 Mixture per acre in 15 to 50 gallons of a water spray mixture.

For more resistant brush such as maple, pine, sourwood, blackgum, cedar and oak where growing on heavy clay soils or on rocky terrain, use 3 to 4 gallons of TORDON 101 Mixture weed and brush killer per acre in 15 to 50 gallons of a water spray mixture. Use the higher rate and volume where the foliage of more difficult to kill brush is covered with dense vine growth. To improve the spectrum of species controlled, 1 to 2 gallons of TORDON 101 Mixture per acre can be tank mixed with 1/2 to 2 gallons per acre of GARLON 3A, GARLON 4 or 4 lb/gal 2,4-D low-volatile ester. Note: For best results under conditions of drought stress use the higher rates recommended. Even these rates under such conditions may not be as effective as the lower rates under good growing conditions.

CUT SURFACE TREATMENTS: In forest and other non-crop areas to kill unwanted trees of hardwood species such as elm, maple, oak and conifers such as pine apply TORDON 101 Mixture, either undiluted or diluted in a 1 to 1 ratio with water, as directed below.

With Tree Injector Method: Application should be made by injecting 1/2 milliliter of undiluted TORDON 101 Mixture of 1 milliliter of the diluted solution through the bark at intervals of 3 inches between edges of the injector wound. The injections should completely surround the tree at any convenient height.

With Frill or Girdle Method: Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with the diluted solution.

Stump Treatment: Spray or paint to wet the cut surfaces of freshly cut stumps or stubs with TORDON 101 Mixture undiluted or diluted 1:1 in water. All of the cambium area next to the bark is the most vital area to wet.

The above methods may be used successfully at any season except during periods of heavy sap flow of certain species such as maples or during drouthy periods. Untreated trees within a few feet of the treated trees or stumps may be injured or killed.

USE PRECAUTIONS :

Use this product only as specified on this label. Observe any special use and application restrictions and limitations, including method of application and permissible areas of use as promulgated by state authorities.

Do Not Make Application When Circumstances Favor Movement From Treatment Site.

Do Not Contaminate Water Intended for Irrigation or Domestic Purposes. To avoid injury to crops or other desirable plants, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes. Do not apply to snow or frozen ground.

Directions sent to these reviewed by Taylor's team in 1986.

Water contaminated with residues of picloram from drainage ditch bank uses shall not be used to irrigate crops which are not registered for use with this chemical.

Do not Apply or Otherwise Permit TORDON 101 Mixture or Sprays Containing TORDON 101 Mixture to Contact Crops or Other Desirable Broadleaf Plants including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit plants, ornamentals or shade trees.

Avoid Injurious Spray Drift: Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

Aerial Application: For aerial application on rights-of-way or other areas near susceptible crops, use NALCO-TROL drift control additive as recommended by the manufacturer or apply through the MICROFOIL boom or equivalent drift control system. Thickened sprays prepared by using high viscosity invert systems or other drift reducing systems may be utilized if they are made as drift-free as are mixtures containing NALCO-TROL or applications made with the MICROFOIL boom. If a spray thickening agent is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with the MICROFOIL boom, or other systems that cannot accommodate thick sprays.

With aircraft, drift can be lessened by applying a coarse spray; by using no more than 30 pounds spray pressure at the nozzles; by using straight stream nozzles directed straight back; by using a spray boom no longer than 3/4 the rotor or wing length; by spraying only when wind velocities are low; or by using approved drift control system.

Ground Equipment: To aid in reducing spray drift TORDON 101 Mixture should be used in thickened (high viscosity) spray mixtures using NALCO-TROL drift control additive or equivalent as directed by the manufacturer. With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by using no more than 30 pounds spraying pressure with large droplet producing nozzle tips; and by spraying when wind velocity is low. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine droplet spray.

High Volume Leaf-Stem Treatment: To minimize spray drift, do not use pressure exceeding 50 psi at the spray nozzle and keep sprays no higher than brush tops. NALCO-TROL thickening agent or equivalent may be used to reduce spray drift.

Conifer planting intervals vary. Pines planted sooner than six months after treatment with TORDON 101 may be injured in the south or west of the Cascade Mountains. Other conifers, west of the Cascade Mountains, may be injured if planted sooner than 8 to 9 months after treatment. For all conifers, the waiting period treatment and planting should be 11 to 12 months in the area between the Cascade and Rocky Mountains and 8 to 9 months in the Lake States and the Northeastern U.S.

Do not rotate food or feed crops on treated land if they are not registered for use with picloram until an adequately sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.

Do not move treated soil to other areas or use it to grow plants if they are not registered for use with picloram until an adequate sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.

PRECAUTIONARY STATEMENTS

Environmental Hazards

Picloram is a chemical which can travel (seep or leach) through soil and under certain conditions contaminate groundwater which may be used for irrigation and drinking purposes. Users are advised not to apply picloram where soils have a rapid to very rapid permeability throughout the profile (such as loamy sand to sand) and the water table of an underlying aquifer is shallow or to soils containing sinkholes over limestone bedrock, severely fractured surfaces, and substrates which would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

An aquifer is defined as "an underground, saturated, permeable, geologic formation capable of producing significant quantities of water to a well or spring. It is the ability of the saturated zone, or portion of that zone, to yield water which makes it an aquifer" (American Chemical Society, 1983).

*New
Groundwater
Language -
See
Previous
Label -
2/11/86*

STORAGE AND DISPOSAL

Prohibitions: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Rinse application equipment after use, at least three times with water, and dispose of rinse water in a non-cropland area away from water supplies.

Container Disposal: METAL Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

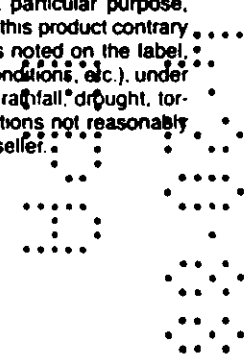
Container Disposal: PLASTIC Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General: Consult federal, state or local disposal authorities for approved alternative procedures.

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

WARRANTY LIMITATIONS AND DISCLAIMER

The Dow Chemical Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions therein under normal conditions of use. THIS IS THE ONLY WARRANTY MADE ON THIS PRODUCT. NO OTHER EXPRESS AND NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OUTSIDE OF THIS LABEL. Therefore, 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 (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), under abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes, etc.) or under conditions not reasonably foreseeable to or beyond the control of seller.



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When buyer or user suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), buyer or user must promptly notify in writing The Dow Chemical Company of any claims to be eligible to receive either remedy given below. The EXCLUSIVE REMEDY OF THE BUYER OR USER and the LIMIT OF LIABILITY of The Dow Chemical Company or any other seller will be one of the following, at the election of The Dow Chemical Company:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

The seller will not be liable for consequential or incidental damages or losses.

The terms of this Warranty Limitations And Disclaimer cannot be varied by any written or verbal statements or agreements. Any employee or sales agent of the seller is not authorized to vary or exceed the terms of this Warranty Limitations And Disclaimer in any manner.

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D388



THE DOW CHEMICAL COMPANY

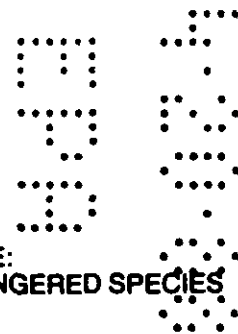
Midland, Michigan 48674 U.S.A.

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SPECIMEN LABEL 86-1160 DATE CODE D388
REPLACES 86-1160 DATE CODE C887
DISCARD PREVIOUS SPECIMEN LABELS

REVISIONS INCLUDE:

- 1) REMOVED ENDANGERED SPECIES RESTRICTIONS



INSERT A

WARNING

CAUSES SUBSTANTIAL BUT TEMPORARY
EYE INJURY ● MAY CAUSE ALLERGIC
SKIN REACTION ● HARMFUL IF SWALLOWED
OR ABSORBED THROUGH SKIN

Do Not Get In Eyes, On Skin Or On Clothing ●
Wear Goggles, Face Shield Or Safety Glasses
When Handling ● Wear Impervious Gloves When
Handling Concentrate ● Wash Thoroughly With
Soap And Water After Handling ● Remove
Contaminated Clothing And Wash Before Reuse

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