

PM 23

407-431

file 15/10



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 18 1994

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

GENE R. CURRIE  
IMPERIAL INC.  
P.O. BOX 98  
SHENANDOAH, IA. 51601-0098

Subject: Label Amendment Submission of 2/11/94 in Response to PR Notice 93-7  
EPA Reg. No. 407-431  
2,4-D 560 LO VOL ESTER WEED KILLER

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

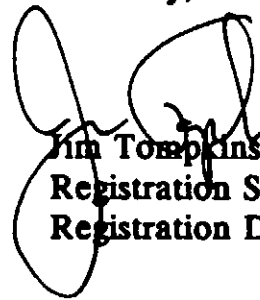
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs  
Room 266A, Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

Gene R. Currie  
Imperial Inc.

Comments for: EPA REG. NO. 407-431  
IMPERIAL 2,4-D 560 LO VOL ESTER WEED KILLER

The following specific comments pertain to your WPS labeling submission concerning the product cited above:

EPA has determined that a closed mechanical transfer system is not required for 2,4-D products. In the personal protective equipment section of your amended labeling, you may revise the statements as follows:

**CONTAINERS GREATER THAN 1 GALLON BUT LESS THAN 5 GALLONS:**  
"Mixers and loaders who do not use mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical resistant apron in addition to other required PPE."

Delete the chemical-resistant category statement from your label  
"Some materials that are chemical-resistant to this product are listed below. If you want more options, follow instructions for category "?" on an EPA chemical-resistant category selection chart."

You must retain from your original label any statements about entry restrictions that apply to the non-agricultural uses on your product. Create a Non-Agricultural Use Requirement box in the Directions for use section or your labeling and add the statements: "The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses." Then add to the box the statement "Do not enter treated areas without protective clothing until sprays have dried" from your original label. Instructions for creating a Non-Agricultural Use Requirements box starting on page 45 of Supplement three to PR Notice 93-7.

Delete the crossed out statements on your proposed label. They are redundant statements or phrases.

Correct the typographical errors circled on your proposed label.

OFF LINE 11/10  
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IMPERIAL  
2,4-D  
560 LO VOL ESTER  
WEED KILLER

ACTIVE INGREDIENT:

Isooctyl Ester of 2,4-Dichlorophenoxyacetic acid

38.8%

INERT INGREDIENTS:

11.2%

Total

100.0%

\*Isomer Specific by AOAC Method No. 6.275 13th Edition 1980  
+2,4-Dichlorophenoxyacetic acid equivalent ... 59.1%  
Contains 5.6 lbs. 2,4-Dichlorophenoxyacetic acid per gallon

KEEP OUT OF REACH OF CHILDREN  
CAUTION

SEE SIDE PANELS FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Reg. No. 407-431  
EPA Est. No. 407-IA-1S, 407-MN-1A  
Superscript used corresponds to  
letter in lot number

F-90WPS

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

NOV 18 1994

NET CONTENTS

Manufactured By  
IMPERIAL INC.  
SHENANDOAH, IA 51601

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
407-431

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Do not get in eyes, on skin or clothing. In case of contact, wash with soap and water. Avoid inhaling spray or mist. In case of contact with eyes, wash with plenty of water.

Personal Protective Equipment:

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on a EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long sleeved shirt and long pants.
- Water-proof gloves.
- Shoes plus socks.
- Protective eyewear.
- Mixer and loaders who do not use a mechanical system (probe and pump) to transfer contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

Follow manufacturer's instructions for cleaning or maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be stored until it has been cleaned.

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Engineering controls statement:(LESS THAN 5 GALLON STATEMENT)

When handlers use closed systems, enclosed cabs, or aircraft, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

(5 GALLON OR MORE STATEMENT)

A mechanical system (pump and probe) must be used in transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
  - Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
  - Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
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**ENVIRONMENTAL HAZARDS**

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water when disposing of equipment washwaters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

**DON'T OVERDOSE!** Follow directions carefully. Do not let spray drift to sensitive plants such as vegetables, legumes, grapes, flowers or other 2,4-D susceptible plants. Use coarse spray to reduce "wind drift". Local spray conditions will vary. Check local recommendations first. Use separate spray equipment for insecticides and fungicides. Do not make aerial application near cotton or sensitive plants. Under certain high temperature conditions, vapors from this product will injure nearby susceptible plants.

**DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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ragweed (common and giant), rape (wild), reedstem, rush, sagebrush (coastal, big, sand), salsify, sand chinnery oak, sheep sorrel, thistle, herdspurse, sicklepod, sneezeweed (bitter), sowthistle (annual), spanishneedles, stinkweed, sunac, sunflower, sweetclover, tarweed, tansy, ragwort, tumbleweed, velvetleaf, virginia creeper, waterhemp, willow, wild sweet potato, witchweed, wormwood, yellow rocket, yellow starthistle.

Partial control can be expected on the following less susceptible species: artichoke, bindweeds (hedge, field, and European), buckwheat (wild), creeping jenny, ground ivy, kochia, climbing milkweed, smartweed, thistle (bull, Canadian, musk and Russian). Deep-rooted perennials such as Canadian thistle and field bindweed and woody plants may require repeat applications.

Apply when weather is warm and plants are rapidly growing. Cold weather or dry conditions may cause poor results. DO NOT apply if rain is expected within 1 hour.

Consult your Extension Service or Agricultural Experiment Station for local use and crop tolerance situations.

This product may be applied as a water, oil, or adjuvant based spray. Use coarse sprays to minimize drift. DO NOT apply where spray may come in contact with any desirable plants or susceptible crops other than those listed on this label.

DO NOT apply this product through any type of irrigation system.

When using ground equipment, keep boom or nozzles close to crop. apply 3 or more gallons of spray per acre using flooding or flat fan nozzles with 20 pounds or less of pressure. If wind exceeds 7 miles per hour, spraying should stop. DO NOT apply with hollow cone or any other mist producing nozzle.

When using aerial equipment, apply a minimum of 3 to 5 gallons of spray per acre at 20 pounds or less nozzle pressure using nozzles that produce a coarse spray pattern. Spray only when wind is blowing less than 5 miles per hour.

Apply the recommended amount of 2,4-D per acre regardless of the amount of diluent used.

Application by any means should take place only when there is no danger of spray drift. Do not apply near cotton, grapes, tomatoes, or other 2,4-D susceptible crops or vegetables. Do not apply when the wind is blowing toward these crops or plants.

**MIXING INSTRUCTIONS:**

**WATER-BASED SPRAY:** Fill the equipment half full of water, agitate while adding this product, then add rest of water.

**WATER AND SOYBEAN OIL OR PETROLEUM OIL-BASED SPRAY:** First mix this product with the oil, then add to water. If vigorous agitation is possible, the oil can be added last. DO NOT MIX OIL FIRST.

**SOYBEAN OIL OR PETROLEUM OIL-BASED SPRAY:** Add this product to the oil, agitate thoroughly, then add to water. If vigorous agitation is possible, the oil can be added last.

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**NITROGEN FERTILIZER:** The compatibility of this product must be tested with the fertilizer before its use in application equipment. This is done by means of a quart jar test as follows: The amount of this product to add to 1 pint of liquid nitrogen fertilizer is determined by using this table --

AMOUNT OF 2,4-D PER ACRE	GALLONS OF FERTILIZER PER ACRE				
	10	20	30	40	50
	TEASPOONS OF 2,4-D PER PINT OF FERTILIZER				
1/2 pint	2/3	1/2	1/3	1/4	1/8
1 pint	1-1/4	1	3/4	1/2	1/4
2 pints	2-1/2	2	1-1/2	1	1/2
4 pints	5	4	3	2	1

The amount in the table is based on gallons of finished spray per acre. Different spray volumes will require appropriate changes in the amount of this product added to 1 pint of fertilizer. Add the required amount of this product to 1 pint of fertilizer in a quart jar and shake to mix well. Let the mixture stand and examine it after 5 minutes and again after 30 minutes. The product is incompatible if it balls up, forms flakes, sludges, gels, oily films, layers, or other precipitates. If the precipitate can be suspended with agitation, the combination can be used if the equipment has vigorous agitation throughout mixing and spraying operations.

In some cases, when incompatibility occurs, the addition of 1/4 teaspoon of a compatibility agent to the jar before adding this product may solve the problem (1/4 teaspoon is equal to 2 pints per 100 gallons of fertilizer). IF THIS DOES NOT WORK, DO NOT ATTEMPT THE ADDITION OF THIS PRODUCT TO THE FERTILIZER.

**Fertilizer Mixing Sequence:** Add this product to liquid fertilizer for weed and feed applications at the rates specified on this label. Fill the equipment half full of fertilizer, make a premix of 1 part this product and 4 parts water and add to fertilizer with agitation ON. Then add balance of fertilizer and apply immediately with agitation ON. DO NOT leave spray mixture in tank overnight.

**CORN:** Use the lower rate for small annual weeds. Use the higher rate for perennial or hard-to-kill weeds. To avoid injury, do not use with atrazine, oil, or other adjuvants.

**Emergence:** Apply 2/3 pint per acre just as corn plants are breaking ground.

**Preemergence:** Apply 1 1/3 to 2 2/3 pints per acre after planting, but before corn emerges. DO NOT apply to sandy soils.

**Postemergence:** Apply 1/3 pint per acre after corn is up. Two-thirds pint per acre may be needed to control some weeds, but this rate may injure the corn. If corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible. DO NOT apply, from tasseling to dough stage. DO NOT apply to open whorls. High moisture and temperature conditions may cause injury or brittleness. DO NOT cultivate for a week to 10 days after treatment.

**Late Season Weed Control (To reduce weeds that interfere with harvest and reduce weed seed production):** After silks are dead and corn is brown, apply 1/3 to 1/2 pint per acre.

**SMALL GRAINS:** Apply this product with a sprayer. NOTE: Do not apply this product to small grains until they are fully emerged. Do not apply to small grains until 2 weeks after treatment. Use the lower rate for annual and biennial weeds. Use the higher dose rate for perennial weeds to kill weeds.





**Spring Wheat, Barley, and Rye:** Apply 1/3 pint per acre when grain is in full tiller stage (4 to 8 inches high), but before boot stage when weeds are small and actively growing. One and one-third pints per acre may be used to control difficult weed problems, but do not use unless some crop damage is acceptable.

**Winter Wheat and Rye:** Apply 1/3 to 1/2 pint per acre only in spring before grain is in boot stage.

**Spring-seeded Oats:** Apply 1/3 to 1/2 pint per acre at full tiller, but before early boot stage.

**Fall-seeded Oats Grown for Grain (Southern):** Apply 1/2 to 1 pint per acre at full tiller stage, but before early boot stage. Difficult weeds may require higher rate, but some injury may occur since oats are less tolerant to 2,4-D than wheat or barley. DO NOT spray during or just after cold weather.

**Preharvest Treatment:** Apply 2/3 to 1 1/3 pints per acre when grain is in hard dough stage to control weeds that will interfere with harvest. Apply when soil moisture is adequate for weed growth for best results.

**NOTE:** DO NOT feed treated straw to livestock.

**MILO (GRAIN SORGHUM):** **NOTE:** Some varieties and hybrids are 2,4-D sensitive. Crop injury may also be increased by high moisture and temperature conditions. Check with your seed company and Extension Service for advice. Apply 1/3 pint per acre when plants are 5 to 15 inches tall. A higher rate of 1/2 to 2/3 pint per acre may be needed for some weeds, but chances of crop injury may increase. DO NOT use oil. DO NOT treat crop less than 7 inches tall or from boot to early dough stage. Use drop nozzles when crop is over 8 inches tall.

**CONSERVATION RESERVE PROGRAMS AND SET-ASIDE ACRES.** **NOTE:** DO NOT use on alfalfa, clover, other legumes or newly seeded areas.

**Broadleaf Weeds:** Apply 1 1/2 quarts per acre in sufficient water for good coverage. Deep-rooted perennial weeds may require a higher rate or repeated treatments.

**Brush:** Apply 2 1/4 to 3 quarts in 5 to 10 gallons of water plus 1 gallon of oil or the labeled amount of crop oil concentrate or other adjuvant per acre for Bullbrush, Rabbitbrush, Sagebrush, Coyotebrush and other Chaparral Species. Apply 2 1/4 to 3 quarts in 5 gallons of oil or 4 gallons of water plus 1 gallon of oil per acre for Sand Shinnery Oak.

**FOR SET-ASIDE ACRES:** Once the Agricultural Stabilization & Conservation Service has released set-aside acres for grazing, do not allow dairy animals or animals being finished for slaughter to forage or graze treated fields within 7 days of application. A 30-day preharvest interval for grass cut for hay and a 3 day preslaughter interval for meat animals is required.

**FOR CONSERVATION RESERVE PROGRAMS:** DO NOT harvest or graze at any time.

**PASTURES AND RANGE LAND:** **NOTE:** DO NOT apply after heads form or when grass is in boot to milk stage when a seed crop is desired. DO NOT use on alfalfa, clover, other legumes, or newly seeded pastures. DO NOT allow dairy animals to graze treated areas within 7 days of application. A 30-DAY preharvest interval for grass cut for hay is necessary. DO NOT slaughter meat animals within 7 days of application.

**Broadleaf Weeds:** Apply 1 1/2 quarts per acre in sufficient water for good coverage. Deep-rooted perennial weeds may require a higher rate or repeated treatments.

**BEST AVAILABLE COPY**

**Brush:** Apply 1 1/2 to 2 quarts in 5 to 10 gallons of water plus 1 gallon of oil at the labeled amount of crop oil concentrate or adjuvant per acre for Blackbrush, Rabbitbrush, Sagebrush, Graybrush and other Chaparral species. Apply 1 1/2 to 2 quarts in 7 gallons of oil or 4 gallons of water plus 1 gallon of oil at the labeled amount of a crop oil concentrate per acre for Red Chinnery Oak.

**NON-CROP AREAS:** To control plants susceptible to 2,4-D in drainage ditchbanks, fencerows, roadsides, and rights-of-way, apply 4 pints for woody plants or 2 2/3 pints for broadleaf weeds in 100 gallons of water. Oils or adjuvants may be added to increase effectiveness. Spray woody plants to run-off when fully leafed out and growing. Avoid spraying when plants are not actively growing such as mid-summer. Reseeding the treated areas should be delayed until the following season. Deep-rooted perennials may require repeated treatments.

**SPOT TREATMENT:** For weeds in non-crop areas, use 1/6 pint to 3 gallons of water, mix thoroughly, and spray to run-off. This high dosage rate may only be used where injury can be tolerated.

**NOTICE OF WARRANTY:** Buyer assumes all risk of use, storage, or handling of this product when not in strict accordance with directions given herewith.

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