

Reg # 42545-53

PM-22

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

J. R. Fisher

APR 14 1994

J. R. Fisher
Vice President
Agrolinz, Inc.
6525 Quail Hollow, Suite 107
Memphis, TN 38120-4422

Dear Mr. Fisher:

Subject: TOUGH 45 WP
EPA Reg. No. 42545-53
Revision To Storage & Disposal Statement
Your Letter & Application Dated 3/28/94

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. Five (5) copies of the finished labeling must be submitted prior to releasing the product for shipment. A stamped copy is enclosed for your records.

You must delete the **NON-AGRICULTURAL USE REQUIREMENT** box since there are no non-agricultural uses registered for your product.

Sincerely,

Jes

✓ Cynthia Giles-Parker
Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure

CONCURRENCES

SYMBOL	1-05							
SURNAME	J. R. Fisher							
DATE	4/15/94							

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AGROLINZ, INC.

TOUGH 45 WP

FOR THE POST-EMERGENCE CONTROL OF ANNUAL WEEDS
IN CABBAGE AND CORN

ACTIVE INGREDIENT:
Pyridate*.....45%
INERT
INGREDIENTS:.....55%
Total.....100%

*O-(6-chloro-3-phenyl-4-pyridazinyl)-S-octyl-carbonothioate
Contains 0.45 lbs. of pyridate per pound of product.

KEEP OUT OF REACH OF CHILDREN
CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF ON SKIN: Wash with plenty of soap and water. Do not reuse contaminated clothing until washed. Get medical attention if irritation persists.

IF IN EYES: Flush with plenty of water for 10-15 minutes. Get medical attention.

EPA Est. No. 33652-AT-02

EPA Reg. No. 42545-53

ACCEPTED
with COMMENTS
in EPA Letter Dated

APR 14 1994

Under the Federal Insecticide
Fungicide and Rodenticide Act
it is unlawful to sell or distribute
any pesticide which is not
registered under FIFRA.

42545-53

AGROLINZ, INC.
6525 Quail Hollow, Suite 107
Memphis, TN 38120-1309
Phone: (901) 756-4422 Fax: (901) 757-9367

Net Contents 2 lbs. / 0.9 kilos

SEE OTHER PANELS FOR ADDITIONAL PRECAUTIONARY STATEMENTS

PRECAUTIONARY STATEMENTS

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CAUTION

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed. Avoid breathing spray mist. Avoid contact with eyes, skin, or clothing. In case of contact immediately flush eyes or skin with plenty of water. Product may cause skin sensitization in some individuals. Get medical attention if irritation persists. If swallowed, contact your local poison control center, hospital, or physician. If the patient is conscious and alert, induce vomiting (syrup of ipecac or stimulate the back of throat with a finger). NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTE TO PHYSICIAN: There is no specific antidote. If this product is ingested, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

1. Long-sleeved shirt and long pants
2. Waterproof gloves
3. Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. 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

Do not contaminate water intended for irrigation or domestic purposes. Runoff may adversely affect nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. This product is toxic to estuarine organisms.

AGRICULTURAL CHEMICAL

DO NOT SHIP OR STORE WITH FOODS, FEEDS, DRUGS, OR CLOTHING.

**FOR CHEMICAL SPILL, LEAK, FIRE OR
EXPOSURE, CALL CHEMTREC
1-800-424-9300**

DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated,

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such as plants, soil or water is:

1. Coveralls
2. Waterproof gloves
3. Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENT

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.

Keep children, pets and other unprotected persons out of treated areas until sprays have dried.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or by disposal.

Storage: Store unused product in original container only in freeze-free, dry area out of reach of children and animals. Keep storage locked.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed on site or at an approved disposal facility.

Container Disposal: TOUGH 45WP is sold in a coated polymer bag containing a 2 pound water soluble bag. The coated polymer bag overwrap does not come into contact with the product and may be disposed in a sanitary landfill, or if allowed by state and local authorities, burned. If burned, stay out of smoke.

GENERAL INFORMATION

Read and follow all label recommendations. Severe crop damage could occur if directions are not followed.

TOUGH 45WP is a contact post-emergence herbicide for the control of certain annual broadleaf weeds. Following a specific pre-plant or pre-emergence herbicide treatment, TOUGH 45WP will suppress or burn back sedges and some annual grasses.

TOUGH 45WP is rapidly absorbed by leaves. It penetrates into both sensitive and

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tolerant plants, but is quickly metabolized and inactivated in tolerant crops such as corn and cabbage. In sensitive weeds, activity is evident by marginal yellowing followed by yellowing and browning of the entire leaf. This visible evidence generally occurs within 4-7 days of application. Activity is more rapid at higher temperatures and under good growing conditions. Weed control under drought conditions may be decreased.

Uptake of TOUGH 45WP by leaves is very rapid and rainfall shortly after application (1-2 hours) has little effect on the degree of weed control.

TOUGH 45WP rapidly decomposes in the soil and has no effective pre-emergence or residual activity.

TOUGH 45WP is noncorrosive to equipment, nonflammable and nonvolatile.

Do not apply when crop is under stress from drought, cold weather, or severe pest infestation. Do not apply if rain has occurred within the last two days.

Do not combine TOUGH 45WP with other pesticides except as specifically directed on this label.

DO NOT USE SURFACTANTS OR OTHER ADJUVANTS

Mixing Instructions: Fill the spray tank with approximately one-half the amount of water to be used in spraying. With agitation, add the correct amount of TOUGH 45WP.

For tank mix combinations, the order of addition of other products is important. Wettable powders or dry flowables should be added after the TOUGH 45WP, aqueous flowables next, and then any emulsifiable liquids.

After all products have been added, finish filling the spray tank with the remainder of the water to be used for spraying.

NOTE: Agitation must occur during mixing and spraying to ensure a uniform spray mixture. Continue agitating during application until spray tank is empty. Spray mixture should be used immediately and not stored.

Application - Procedures - Apply TOUGH 45WP treatments with a boom sprayer properly calibrated at constant speed and delivery. Application should be made using a minimum of 20 - 30 gallons of water per acre at 30-40 psi. Thorough coverage of weeds is essential for best results. Large crop and weed-leaf canopies may shelter smaller weeds and prevent adequate coverage.

Timing: TOUGH 45WP is most effective on actively growing weeds in the 2-4 true leaf stage.

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A delay in spraying which permits weeds to grow beyond the proper application time may result in poor control. If weeds are under stress and not actively growing, they are harder to kill. Scout your fields 14-16 days after planting to determine exact timing for application. In corn, a cultivation may be necessary if all weeds are not controlled or if weeds regrow.

Do not apply when conditions favor drift which can carry spray to adjacent sensitive non-target areas.

USE DIRECTIONS

Refer to the WEED CHART for specific weed information. Do not use this product in any type of irrigation system.

USE ON CABBAGE

Cabbage is more tolerant to TOUGH 45WP at certain stages of development. For optimum weed control and minimal competition to the crop, timing of application should be based on the stage of weed growth. However, for early application to the crop, the recommended growth stage of the crop must be carefully observed. Failure to do so may result in severe crop damage. This is especially true for cabbage grown in the southern states. Cabbage grown in the northern states are less susceptible to damage from TOUGH 45WP in the early stages of development.

In seeded cabbage, TOUGH 45WP should be applied only when the crop has at least 4 leaves fully developed and before head formation.

In transplanted cabbage, TOUGH 45WP should be applied only after plants have become well established (about 3 weeks after transplanting) and before head formation.

For optimum broad spectrum weed control, TOUGH 45WP may be used as part of a sequential treatment to control broadleaf weeds following a preplant incorporated or pre-emergence herbicide.

For control of annual broadleaf weeds including triazine resistant types and annual grasses, use the following treatment:

Apply trifluralin at recommended rates (see trifluralin label) pre-planting and incorporate, then follow with a post-emergence application of TOUGH 45 WP at 2 lbs./acre to actively growing weeds. Apply Tough 45WP to broadleaf weeds in 2-4 leaf stage and annual grasses in 1-2 leaf stage in 20-30 gallons of water per acre. Thorough coverage of targeted weeds is essential.

Do not apply TOUGH 45 WP to cabbage within 45 days of harvest.

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CAUTION: TOUGH 45WP may cause temporary discoloring or yellowing of leaves that were sprayed. Only leaves that come in contact with spray will be affected. The discoloring of leaves does not affect yields.

RESTRICTIONS

Do not feed treated cabbage to livestock within 45 days of application of TOUGH 45 WP.

USE ON FIELD CORN

Field Corn is tolerant to TOUGH 45WP at all stages of development. However, for optimum weed control and minimal competition to the crop, timing of application must be based on the stage of weed growth.

Do not apply TOUGH 45WP to corn within 68 days of harvest.

RESTRICTIONS

Do not graze or otherwise feed treated corn grain, forage, or fodder to livestock within 68 days of application of TOUGH 45 WP.

Option 1: TOUGH 45WP Plus Atrazine - In Tank Mix Combination Against Annual Broadleaf Weeds Including Triazine Resistant Weeds

For the control of annual broadleaf weeds up to the 4 leaf stage. Combine 1 lb. of TOUGH 45WP with 0.75 lbs. of atrazine 80WP (or the equivalent 90 DF or 4 L) per acre for early post-emergence application.

This combination is to be applied in a sequential treatment with a pre-emergence grass herbicide or in fields without grass infestation. Grasses up to the 3 leaf stage, escaping from pre-emergence treatment, are suppressed with this TOUGH-atrazine combination.

Option 2: TOUGH 45WP Plus Atrazine - In Tank Mix Combination Broadpectrum Post-emergence Treatment Including Triazine Resistant Weeds

For broadspectrum weed control, combine 2 lbs. of TOUGH 45WP with 1.25-2 lbs. of Atrazine 80WP (or the equivalent 90 DF or 4 L) per acre.

Time application when susceptible grass species are in the 1-3 leaf stage. For best control of most broadleaf species, apply when they are in the 2-4 leaf stage. Use the higher rate of atrazine for most consistent grass control. Avoid fields with problem grasses which atrazine does not control or include a grass herbicide in the control program. Get further instructions from the weed chart.

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Read atrazine label for additional instructions and restrictions.

Option 3: TOUGH 45WP Plus Cyanazine (Bladex) - In Tank Mix Combination Broadpectrum Post-emergence Treatment Including Triazine Resistant Weeds (for use in Northeast and Central States only)

For broadpectrum weed control where atrazine residue carry-over may be a problem, combine 2 lbs. of TOUGH 45WP with 1.25 - 2 lbs. of Bladex 80WP (or the equivalent DF).

Apply when the susceptible grasses are in the 1-3 leaf stage. For best control of broadleaf weeds, spray when they are in the 2-4 leaf stage. Use the higher rate of Bladex for most consistent grass control. Get further instructions from the weed chart.

Precautions for TOUGH 45WP plus Bladex (80WP or DF)

- DO NOT apply if the fifth leaf of corn is visible.
- DO NOT use the Bladex flowable formulation.
- DO NOT apply during cool wet conditions or when corn is under stress.
- DO NOT use on sandy soils with less than 1% O.M.
- Read the Bladex label.

**Option 4: TOUGH 45WP Alone
Broadleaf Weeds Including Triazine Resistant Biotypes**

For the control of broadleaf weeds including triazine resistant biotypes, apply 2 lbs. of TOUGH 45WP when the weeds are in the 2-4 leaf stage.

TOUGH 45WP alone may be used as part of a sequential treatment to control escaping broadleaf weeds, following a preplant incorporated or pre-emergence grass herbicide.

SPECIAL USE DIRECTIONS

Yellow and purple nutsedge (Cyperus esculentus, C. rotundus):

Yellow and purple nutsedge are suppressed significantly with TOUGH 45WP. Apply 2 lbs./acre TOUGH 45WP when the sedges are 6-8 inches high. TOUGH will burn back the top growth of nutsedge. Regrowth may occur. TOUGH 45WP alone or TOUGH 45WP plus atrazine can be applied at any stage of the crop growth.

Grasses:

TOUGH 45WP at a rate of 2 lbs./acre plus atrazine will control moderate infestations

of escaped grasses following a pre-plant incorporated or pre-emergence grass herbicide.

TOUGH 45WP at rate of 2 lbs./acre plus atrazine or cyanazine (Bladex*) will control susceptible grasses up to the 3 leaf stage.

Early timing is the key for good broadleaf weed and grass control. Delay in timing may result in reduced control. A timely cultivation 10-14 days after an application may aid in control.

*Bladex is a registered trademark of Du Pont Inc.

WARRANTY LIMITATIONS AND DISCLAIMER

Agrolinz, Inc. 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 For Use when used under normal conditions. **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.

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 Agrolinz, Inc.** 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 Agrolinz, Inc. or any other seller will be one of the following, at the election of Agrolinz, Inc.:

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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AGROLINZ, INC.
6525 Quail Hollow, Suite 107
Memphis, TN 38120-1309
USA

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WEED CHART FOR USE OF TOUGH 45 WP

<u>WEED</u>	<u>COMMON NAME</u>	<u>OPTION 1</u> 1 lb. TOUGH 45 WP + 0.75 lbs. of atrazine 80 WP	<u>OPTION 2</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of atrazine 80 WP	<u>OPTION 3</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of Bladex 80 WP	<u>OPTION 4</u> 2 lbs. 45 WP
herbicide					
Amaranth, palmer spiny	A. palmeri A. spinosus	X X	X X	X X	
Anoda, spurred	Anoda cristata	X	X	X	
Artichoke, Jerusalem	Helianthus tuberosus		XS	XS	
Bedstraw, catchweed	Galium aparine	X	X	X	
Bindweed, field	Convolvulus arvensis	XS	XS	XS	
Buckwheat, wild	Polygonum convolvulus		X	X	
Carpetweed	Mollugo verticillata	X	X	X	
Chickweed, Common	Stellaria media	X	X	X	
Cocklebur, common	Xanthium strumarium	X	X	X	
Corn chamomile	Anthemis arvensis	X	X	X	
Corn spurry	Spergula arvensis	X	X	X	
Dead nettle, purple spotted	Lamium purpureum Lamium maculatum	X X	X X	X X	
Galinsoga, hairy small flower	Galinsoga ciliata Galinsoga parviflora	X X	X X	X X	
Henbit	Lamium amplexicaule	X	X	X	
Jimsonweed	Datura stramonium	X	X	X	

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WEED CHART FOR USE OF TOUGH 45 WP

<u>WEED</u>	<u>COMMON NAME</u>	<u>OPTION 1</u> 1 lb. TOUGH 45 WP + 0.75 lbs. of atrazine 80 WP	<u>OPTION 2</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of atrazine 80 WP	<u>OPTION 3</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of Bladex 80 WP	<u>OPTION 4</u> 2 lbs. TOUGH 45 WP
herbicide					
Kochia	Kochia scoparia	X	X	X	X
Knotweed, prostrate	Polygonum aviculare		X	X	
Lady's thumb	Polygonum persicaria		X	X	
Lambsquarters, common	Chenopodium album	X	X	X	X
Mayweed chamomile	Anthemis cotula	X	X	X	X
Morningglory entireleaf	Ipomea hederacea var integriuscula		X	X	
ivy leaf	Ipomea hederacea	X	X	X	
pitted	Ipomea lacunosa	XS	X	X	XS
red	Ipomea coccinea	XS	X	X	X
smallflower	Jacquemontia tamnifolia	XS	X	X	X
tall	Ipomea purpurea		X	X	
Mustard white	Sinapsis alba	X	X		
wild	Sinapsis arvensis	X	X	X	
Nighthshade, American black	Solanum americanum	X	X	X	X
black	Solanum nigrum	X	X	X	X
eastern black	Solanum ptycanthum	X	X	X	X
purple	Solanum xanthi	X	X	X	X
silverleaf	Solanum elaeagnifolium	X	X	X	X
Pigweed, fringed	Amaranthus fimbriatus	X	X	X	X
prostrate	Amaranthus blitoides	X	X	X	X

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WEED CHART FOR USE OF TOUGH 45 WP

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herbicide					
Pigweed, con't redroot	<i>Amaranthus retro- flexus</i>	X	X	X	X
smooth	<i>Amaranthus hibridus</i>	X	X	X	X
tumble	<i>Amaranthus albus</i>	X	X	X	X
Prickly Sida	<i>Sida spinosa</i>	X	X	X	
Ragweed, common	<i>Ambrosia artemisi- folia</i>	X S	X	X	X S
giant	<i>Ambrosia trifida</i>	X S	X	X	X S
Shepherdspurse	<i>Capsella bursa- pastoris</i>	X	X	X	X
Sicklepod	<i>Cassia obtusifolia</i>		X	X	X S
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	X	X	X	X S
Thistle, Canada	<i>Cirsium arvense</i>		X S	X S	
Velvetleaf	<i>Abutilon theophrasti</i>	X	X	X	X
Yellow rocket	<i>Barbarea vulgaris</i>	X	X	X	X

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WEED CHART FOR USE OF TOUGH 45 WP

<u>WEED</u>	<u>COMMON NAME</u>	<u>OPTION 1</u> 1 lb. TOUGH 45 WP + 0.75 lbs. of atrazine 80 WP	<u>OPTION 2</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of atrazine 80 WP	<u>OPTION 3</u> 2 lbs. TOUGH 45 WP + 1.25-2 lbs. of Bladex 80 WP	<u>OPTION 4</u> 2 lbs. TOUGH 45 WP
herbicide					
<u>Grasses</u>					
Barnyard grass	Echinochloa crus- galli	XE	X	X	XE
Crabgrass, large	Digitaria sanguinalis	XS	XS	X	XE
smooth	Digitaria ischaemum	XS	X	X	
Foxtail, giant	Setaria faberi	XS	X	X	
giant green	Setaria viridis var. major	XS	X	X	XS
green	Setaria viridis	XE	X	X	XS
yellow	Setaria glauca	XE	X	X	XS
Panicum, fall	Panicum dichotomi- florum			X	
Panicum, Texas	Panicum texanum		X	X	
Witchgrass	Panicum capillare			X	

XE = Control of escaped grasses up to the 3 leaf stage

XS = Suppression

X = Controlled