

US EPA ARCHIVE DOCUMENT

2,4-D/TOX

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TOX

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



MEMORANDUM

DATE: November 10, 1980

SUBJECT: EPA Reg. No. 538-71
Turf Builder Plus 2 for Grass (W/S);
Super Turf Builder Plus 2 for Iron
Deficient Soils

FROM: Sherell A. Sterling
FHB/TSS

SSS
11-18-80
E *11/19/80*

TO: Richard Mountfort
Product Manager (23)

Applicant: O. M. Scott and Sons
Marysville, OH
Attention: Gerald L. Born

Active Ingredients:
2,4-D.....0.6%
MCPA^P.....0.6%
Inert Ingredients.....98.8%

Background:

These data were submitted to substantiate a change in signal word from CAUTION to WARNING. The method of support is "alternate." Included in the data submitted were Acute Oral, Acute Dermal, and Eye and Skin Irritation studies conducted by Warf Institute of Madison, Wisconsin. An additional Eye Irritation study was conducted by Raltech Scientific Services of Madison, Wisconsin. These data are under Accession Number 243006. "F-7645" was identified as EPA Reg. # 538-71.

SSS
11-18-80

Comments:

A letter was submitted by Scotts (July 31, 1980) which attempts to justify the signal word "WARNING" rather than "DANGER." This letter included the information that no accidents related to Eye Irritation had been reported. Also, due to method of application, possibility of eye contact is remote.

Recommendations:

1. The Acute Oral study is adequate for conditional registration purposes. However, please note the following for future studies:
 - a. Equal numbers of males and females must be tested at each dosage level.
 - b. Necropsies must be performed on all test animals.
2. The Acute Dermal study is considered acceptable for conditional registration purposes. Please note the following:
 - a. Equal numbers of males and females must be tested at each dosage level.
 - b. Necropsies must be performed on all test animals.
 - c. Solid material must be moistened.
3. Both Eye Irritation studies are considered adequate and acceptable for conditional registration purposes. Please note that an "eyewash" group (minimum of 3 animals) must be included in all Eye Irritation studies.
4. The Primary Skin Irritation study is adequate and acceptable for conditional registration purposes. Please note that for this study, solid material must be moistened with physiological saline.
5. An Acute Inhalation Study was not submitted. This study must be submitted or submit a statement which explains why this study is not necessary. Please see §163.81-3 of the "Proposed Guidelines for Human Hazard Evaluation" for an outline of when this study is required.
6. Dr. Kelty's letter of July 31, 1980, provided valuable information in the evaluation of the Eye Irritation studies. This letter stated that the method of application generally precluded eye contact, that no reports of injury had been filed and that the test results were inconclusive.
7. FHB/TSS has no objection to the conditional registration of this product provided that an acceptable Acute Inhalation study is submitted and the following labeling revisions are made.

8. The appropriate signal word (based on the Eye Irritation study) is WARNING, as proposed by the applicant.

Labeling Recommendations:

1. The statement "Do not contaminate feed or foodstuffs" must be removed from the "Hazards to Humans and Domestic Animals" section. The appropriate place for this statement is as a general restriction under the "Directions for Use."
2. The "Environmental Hazards" section must be revised to the following (or similar) statement:

Do not apply directly to
~~"Keep out of~~ lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."
3. No further labeling revisions are necessary at this time. Please note that additional revisions may be necessary when the data requested above are submitted.

Review:

1. Acute Oral Toxicity: Warf Inst. No. 6021914; Acc. No. 243006; Feb. 12, 1976.

Procedure: Groups of six male Sprague-Dawley rats (150-250g) received an oral dosage of "F-7645." The dosage levels were 5 g/kg, 10 g/kg or 20 g/kg. Animals were observed for 14 days post-treatment.

Results: No mortalities were reported. LD₅₀ for males is greater than 20 g/kg.

Study Classification: Core Minimum Data. Only M subjects tested; however, LD₅₀ was so high that the LD₅₀ for F in spite of variations would remain in the same toxicity category. No necropsies.

Toxicity Category: IV - CAUTION

2. Acute Dermal Toxicity: Warf Inst. No. 6021914; Acc. No. 243006; Feb. 12, 1976.

Procedure: Four male rabbits received an 8 g/kg exposure to "F-7645" under occlusive wrap. Exposure was for 24 hours. Animals were observed for 2 weeks post exposure.

Results: Apparently no animals died during study. All body weights increased.

Study Classification: Core Minimum Data. Only M subjects tested; however, LD₅₀ was high enough so that a likely variation due to sex would place M and F in same toxicity category. Solid material must be moistened. No necropsies performed.

Toxicity Category: III - CAUTION

3. Eye Irritation: Warf Inst. No. 6021914; Acc. No. 243006; Feb 12, 1976.

Procedure: 6 New Zealand white rabbits received 0.1g of "F-7645" in one eye of each rabbit. Animals were observed for 72 hours post-exposure.

Results: At 24 hours, no corneal opacity; no iris irritation; redness in 6/6 = 2; chemosis 6/6 = 2; discharge 6/6 = 2. By 72 hours only irritation noted was redness in 2/6 = 1.

Study Classification: Core Minimum Data. No "eyewash" group tested.

Toxicity Category: III - CAUTION

4. Primary Eye Irritation: Raltech Lab #772287; Acc. No. 243006; March 21, 1980.

Procedure: Nine New Zealand white rabbits each received in one eye 0.1g of "F-8598." Thirty seconds post-treatment, three of the eyes were washed with lukewarm water for 1 minute; remaining six were unwashed. Scoring at 24, 48, 72, 96 hours; 7, 14, 21 days.

Results: All animals increased in body weight. At 24 hours the unwashed, corneal opacity observed in 3/6 = 5, 1/6 = 7.5, 1/6 = 10, 1/6 = 11.25; 6/6 had corneal epithelial peeling; iris irritated and injected in 6/6 = 1; redness in 3/6 = 2, 1/6 = 2.5, 2/6 = 3; chemosis in 4/6 = 2, 2/6 = 3; purulent discharge in 3/6 = 1, 1/6 = 1.5, 1/6 = 2.0, 1/6 = 2.5. Corneal opacity had cleared in all but 1/6 by 96 hours; 1/6 persisted through day 21. Only other effect at 7 days was redness in 1/6 = 1 which had cleared by 14 days. The rinsed group at 24 hours showed corneal opacity in 2/3 = 2.5, 1/3 = 7.5; corneal epithelial peeling in 2/3; iris irritated and injected in 1/3 = 1; redness in 1/3 = 1, 1/3 = 1.5, 1/3 = 2; chemosis in 2/3 = 1.5; purulent discharge in 2/3 = 0.5. At 72 hours, rinsed eyes showed redness in 3/3 = 1; all scores were zero at 7 days.

Study Classification: Core Guideline Data.

Toxicity Category: II - WARNING. Only 1/9 showed corneal opacity at day 7.

5. Primary Skin Irritation: Warf Inst. No. 6021914; Acc. No. 243006; Feb. 12, 1976.

Procedure: Six albino rabbits received exposure of 0.5g of "F-7645" at each of 2 sites per animal. Exposure was for 24 hours under occlusive wrap. Scoring at 24, 72 hours.

Results: All scores were zero.

Study Classification: Core Minimum Data. Solid material must be moistened.

Toxicity Category: IV - CAUTION

FRONT:

fertilizer
plus lawn
weed control

FOR GRASS
BRAND
plus 2 (R)
TURF BUILDER (R) (Scotts)

Treats 2,000 sq ft (186 m²)

Formulated for
Western and
Southern
Lawns

(Scotts (R))
Turf Builder
plus 2 (R)
BRAND
FOR GRASS

weed control plus lawn fertilizer
for use on bahia, bermuda,
centipede, zoysia, fescue, ryegrass
or bluegrass lawns

Clears out weeds
(see list on other side)

Gives complete feeding
of Scotts long-lasting
fertilizer for developing
beautiful, green lawns.

DO NOT USE ON
ST. AUGUSTINE, CARPETGRASS, CREEPING BENTGRASS,
DICHONDRA, OR LIPPIA

NET WEIGHT 11 3/8 LBS (5.16 kg) 22-3-3

KEEP OUT OF REACH OF CHILDREN
WARNING
PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals: Causes eye irritation. Do not get in eyes, on skin, or on clothing. In case of contact immediately wash eyes or skin with plenty of water. Get medical attention if irritation persists. Harmful if swallowed. Do not contaminate feed or foodstuffs.

Environmental Hazards: Do not contaminate water used for irrigational or domestic purposes. Avoid application on shrubs, flowers, fruit or vegetable plants.

Storage and Disposal: Do not reuse empty container. Wrap container and put in trash container.

ACTIVE INGREDIENTS:

2,4-Dichlorophenoxyacetic acid
2-(2-Methyl-4-chlorophenoxy) propionic acid . .

0.60%
0.60%
98.80%

INERT INGREDIENTS:

Total 100.00%

CONT. CONTINUED:

EPA Reg No 538-71
Turf Builder plus 2 for Grass

EPA Est. 538-OH-1
22-3-3

643-1126

Guaranteed Analysis

Total nitrogen (N)	22%
0.7% ammoniacal nitrogen	
14.4% urea nitrogen	
6.9% water insoluble nitrogen	
Available phosphoric acid (P ₂ O ₅)	3%
Soluble potash (K ₂ O)	3%
Derived from: monoammonium phosphate, urea, methylene ureas, muriate of potash.	

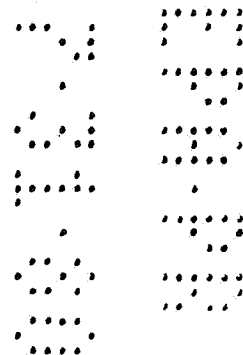
Iron (Fe)	1.10%
Derived from ferrous sulfate.	

Chlorine, not more than	2.68%
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2216 (Scotts (R)) TURF BUILDER	weed control
plus 2	plus lawn
(R)	fertilizer
BRAND	
FOR GRASS	

W/S



GUSSETS:

(Scotts (R)) TURF BUILDER
plus 2 (R)
BRAND

weed
control
plus lawn
fertilizer

2216

weed
control
plus lawn
fertilizer

TURF BUILDER
plus 2
(R)
BRAND

(Scotts (R))

2216

2216
2216

(R) plus 2 FOR TURF BUILDER (Scotts (R))
 Weed control plus 2 FOR TURF BUILDER (Scotts (R))
 Treats 2,000 sq ft (186 m²)

2216 1B+2 W/S 2M
 EASY
 OPEN BAG
 PULL
 WHITE
 STRING

TURF BUILDER
 (Scotts (R)) plus 2 FOR GRASS 2216
 (R)
 BRAND
 weed control plus lawn fertilizer
 for use on bahia, bermuda, centipede,
 zoysia, fescue, ryegrass, or bluegrass
 lawns

Turf Builder plus 2 is a weed control plus fertilizer for use only on lawns. To fertilize vegetables, flowers, shrubs and trees, look for these specially formulated products from Scotts

- . Grow Vegetables
- . Grow Flowers
- . Grow Shrubs, Trees, Evergreen
- . Grow Azaleas, Camellias, Rhododendrons
- . Grow Transplants

WEEDS CONTROLLED

aster	chicory	filaree	lippia	prickly	shepherds-
bittercress	cinquefoil	fleabane	(matchweed)	(lettuce)	purs
black medic	clover (white)	ground ivy	mallow	puncturevine	smartweed
bristly oxtongue	cudweed	healall	moneywort	purslane	sowthistle
buckhorn	curly dock	henbit	morningglory	pusley,	stitchwort
bullthistle	dandelion	horseweed	mustard	Florida	thymeleaf
burclover	dichondra	knotweed	pennywort	ragweed	sandwort
buttonweed	dollarweed	(seedling)	pepperweed	scarlet	vetch
centella	English daisy	lambsquarters	pigweed	pimpernel	yellow
chickweed	eveningprimrose		plantain	shadflower	rocket

Directions for Use

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

- DO use when weeds are up and growing actively. On bahia and centipede lawns only, wait until after the second mowing of the year but not before mid-March. In the fall do not treat centipede after the first of October; do not treat bahia after the first of November.
- DO apply only when lawn is wet from dew, rain or thorough watering (very important so that the Turf Builder Plus 2 particles will stick to the weed leaves instead of falling to the soil).
- DO withhold watering lawn for at least 24 hours after application (to avoid washing particles off the weed leaves).
- DO sweep or hose material off walks, driveways, and shoes to avoid discoloration.
- DO apply on a calm day.
- DO apply at Scotts Spreader (Standard, Automatic or Precision Flow Control Model) setting 7½ (treats 2,000 sq ft).
- DO slightly overlap spreader's wheel tracks
- DON'T use when rain is expected within 24 hours.
- DON'T use in a period of extreme heat and humidity.
- DON'T use when grass is so tall it touches bottom of spreader (mow lawn first in such situations).
- DON'T use on a newly seeded, sodded or sprigged lawn until the new grass has been mowed at least four times. If seeding in late spring, delay weed control application until early fall. If seeding in the late fall, delay weed control application until spring.
- DON'T plant right after using Turf Builder Plus 2. Wait at least one month.
- DON'T use on St Augustine, carpetgrass, lippia, dichondra, creeping bentgrass nor on flowers, shrubs, fruit, vegetable plants.
- DON'T apply with a rotary-type spreader.

CONTINUED:

What to expect

This product does not work overnight. It is designed to provide slow, steady controlled action. Stems and leaves of weeds may begin to twist and curl in a few days, but a month or more may be required for complete control, especially when weather is dry or cool.

It is not necessary to rake out dead weeds. They will eventually disintegrate and disappear.

Only weeds growing at time of application will be eliminated. This product does not prevent weed seeds from producing new plants, whether such seeds are on the surface or buried in the soil. Nor does it control existing oxalis or crabgrass.

If particles become washed off weed foliage within 24 hours after application, control may be less effective. If there is no indication that it is working after 3 or 4 weeks of good growing weather another treatment may be needed.

A few weeds may be resistant to control. If this happens, please forward specimens so we can identify them and advise you further.

After weed control is achieved, you are urged to follow through on the basic needs of every lawn—fertilizer, water and regular mowing.

Free bulletin service

As a Scotts user, you are entitled to a free subscription to Lawn Care, which has been helping lawnowners for over 50 years.

Unless you already receive Lawn Care, send us this coupon and we'll mail you the seasonal issues prepared especially for your region.

LLUS.)

NAME (please print)

ADDRESS

CITY

STATE

ZIP

Cut out and mail to SCOTTS, the lawn people, Marysville, Ohio 43041

2216

Scotts Policy
No-Quibble Guarantee

If for any reason you are not satisfied with results after using this product, you are entitled to get your money back. Simply send us evidence of purchase and we will mail you a refund check promptly.

SCOTTS...the lawn people
MARYSVILLE, OHIO 43041

2216 (Scotts (R)) TURF BUILDER
plus 2 (R)
BRAND

weed
control
plus lawn
fertilizer

