



CASWELL FILE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

007063

MAR 7 1989

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OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Identification No. 476-EEEL;
SC-0224 Concentrate (Containing
52.2% Sulfosate); Registration
for Noncrop Uses Around the Farm

Tox Chem No. (893C)
Project No. 9-0413
Record No. 235370

FROM: Edwin R. Budd, Section Head
Review Section 1, Toxicology Branch-I (IRS)
Health Effects Division (H7509C)

TO: Robert J. Taylor, PM 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

THRU: Judith W. Hauswirth, Chief *Judith W. Hauswirth*
Toxicology Branch-I (IRS) *3/6/89*
Health Effects Division (H7509C)

Requested Action:

ICI Americas, Inc. has requested registration of SC-0224 Concentrate (also known as Touchdown^R Concentrate), containing 52.2% sulfosate as the active ingredient, for weed control in noncrop areas around the farm. Sulfosate is a new (i.e. not previously registered) nonselective foliar systemic herbicide.

Recommendation:

Sufficient toxicological information and studies have been submitted to support registration of this end-use product and Toxicology Branch-I (TB-I) has no objection to full registration of this product at this time.

The following comments are pertinent to this registration.

1. The proposed label (attached) for this Toxicity Category III product is acceptable. The human hazard signal word (CAUTION), statement of practical treatment and precautionary statements are satisfactory as written.
2. Acute toxicity studies previously submitted on technical grade SC-0224, containing 62.0% sulfosate, are acceptable in support of the labeling for this end-use product which, in fact, is an aqueous dilution of the technical grade product.
3. It is noted that an incorrect Toxicity Category (II) was previously assigned to the results of the acute inhalation toxicity study on rats (Environmental Health Labs., No. T-11728, 5/6/86). The LC_{50} of >0.81 mg/L is for a 4-hour exposure, rather than for a 1-hour exposure, hence the correct Toxicity Category for this study is III (rather than II).
4. It is also noted that the proposed label now includes a precautionary statement regarding allergic skin reactions as was previously recommended by Toxicology Branch.
5. Regarding the 21-day dermal toxicity study on rabbits submitted in this package, the applicant should be asked to clarify precisely what the test material actually used in this study was (Hazleton Labs. America, HLA 6142-107, 3/1/88). In numerous places (including the title of the study and correspondence), the test material is described as SC-0224 Concentrate (presumably 52.2% active ingredient), but in the study report itself (on page 12), the test material actually received and used by Hazleton is described as SC-0224 TECH (57.3%) WRC 10387-47-01. Which is correct? This information is being requested for the sake of completeness since either test material would be satisfactory for the purpose of this action.

The TB-1 review of this study, by Dr. Brian Dementi, is attached. This study is classified as Core-Guideline. The NOEL for systemic toxicity is ≥ 1000 mg/kg/day. Mild erythema was observed at the application sites in all sulfosate treated groups.

6. In addition to the acute studies and subchronic dermal study referred to above, a considerable number of other toxicity studies on sulfosate is available to support this registration. These studies include teratology studies on rats and rabbits, reproduction and fertility studies on rats, chronic feeding studies on dogs and rats, oncogenic studies on mice and rats, metabolism data and numerous mutagenicity studies. Although not all these studies are

fully acceptable at this time, there is nevertheless ample toxicological information to fully support this present registration request for noncrop use and to assure the lack of significant toxicological hazard associated with this particular use of sulfosate.

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TOUCHDOWN CONCENTRATE
NONSELECTIVE FOLIAR SYSTEMIC HERBICIDE
FOR WEED CONTROL IN NONCROP AREAS AROUND THE FARM

Active Ingredient

Sulfosate: N-Phosphonomethylglycine
trimethylsulfonium salt 52.2%

Inert Ingredients 47.8%
Total 100.0%

(Contains 5.5 pounds active ingredient per gallon)

KEEP OUT OF REACH OF CHILDREN

C A U T I O N

READ ALL LABEL DIRECTIONS BEFORE USING

STATEMENT OF PRACTICAL TREATMENT

If a known exposure occurs or is suspected, immediately initiate the recommended procedures below. If further treatment is required, contact a POISON CENTER, a physician, or the nearest hospital.

If swallowed, immediately give several glasses of water and induce vomiting by gagging the victim with a finger placed on the back of the victim's tongue. Give fluids until vomitus is clear. Do not induce vomiting or give anything by mouth if victim is unconscious or convulsing.

If on skin, flush with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if skin irritation occurs. Wash clothing before re-use.

If in eyes, hold eyelids apart and flush eyes with large amounts of running water for at least 15 minutes. Get medical attention if irritation persists.

If inhaled, remove to fresh air. Seek medical attention if respiratory irritation occurs or if breathing becomes difficult.

This product is sold only for uses stated on its label. No express or implied licence is granted to use or sell this product under any patent in any country except as specified: Country: United States of America. U.S. Patent No. 4,315,765.

_____ Gal. Net _____ L.

EPA Reg. No. 10182-
EPA Est. No.

Made in U.S.A. by
ICI Agricultural Products
ICI Americas Inc.
Wilmington, Delaware 19897

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PRECAUTIONARY STATEMENTS

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HAZARDS TO HUMANS AND DOMESTIC ANIMALS

C A U T I O N

HARMFUL IF SWALLOWED, ABSORBED THROUGH THE SKIN OR INHALED. PROLONGED CONTACT MAY CAUSE SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTIONS. Avoid contact with skin, eyes or clothing. Wear rubber gloves when handling. Avoid breathing spray mist.

Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before re-use.

ENVIRONMENTAL HAZARDS

Keep out of lakes, ponds and streams.

Do not apply to any body of water, wetlands or other aquatic habitats. Do not contaminate water when disposing of equipment washwaters.

In case of spill, ISOLATE the spill. Absorb spill with inert absorbent material such as clay or Fuller's earth. Sweep up used absorbent and place in an appropriate chemical waste container. Flush spill area with water. Observe all local, State and Federal laws and regulations regarding disposal, spill cleanup, removal or discharge.

FOR 24-HOUR EMERGENCY ASSISTANCE CALL ICI AMERICAS MEDICAL EMERGENCY INFORMATION CENTER 1-800-327-8633.

In case of a significant spill call CHEMTREC 1-800-424-9300.

OTHER PRECAUTIONS

Caution must be taken when applying TOUCHDOWN Concentrate to avoid drift or contact with nontarget plant species. Such contact may result in plant injury.

TOUCHDOWN Concentrate should not be mixed or stored in galvanized steel or unlined steel containers. Stainless steel, plastic-lined steel, plastic or fiberglass containers are acceptable for mixing and storing TOUCHDOWN Concentrate.

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WEEDS CONTROLLED BY TOUCHDOWN CONCENTRATE

All weeds listed below are controlled by spray, wiper and hand-directed spot applications of TOUCHDOWN Concentrate. For spray application use the indicated rates. See DIRECTIONS FOR USE for mixing and application instructions.

The following weeds are controlled by 1/3 to 3/4 qt. TOUCHDOWN Concentrate per acre:

Bluegrass, Annual	(<u>Poa annua</u>)
Chickweed	(<u>Stellaria media</u>)
Cupgrass, Southwestern	(<u>Eriochloa gracilis</u>)
Foxtail, Giant	(<u>Setaria faberi</u>)
Foxtail, Green	(<u>Setaria virescens</u>)
Jimsonweed	(<u>Datura stramonium</u>)
Kochia	(<u>Kochia scoparia</u>)
Lambsquarters, Common	(<u>Chenopodium album</u>)
Oats, Wild	(<u>Avena fatua</u>)
Puncturevine	(<u>Tribulus terrestris</u>)
Ryegrass, Italian (Annual)	(<u>Lolium multiflorum</u>)
Signalgrass	(<u>Brachiaria spp.</u>)
Sowthistle	(<u>Sonchus spp.</u>)
Spurge, Spotted	(<u>Euphorbia maculata</u>)
Thistle, Russian	(<u>Salsola kali</u>)
Wheat, Volunteer	(<u>Triticum spp.</u>)
Witchgrass	(<u>Panicum capillare</u>)

The following weeds are controlled by 3/4 to 1-1/4 qt. TOUCHDOWN Concentrate per acre:

Alfalfa, Volunteer	(<u>Medicago sativa</u>)
Barley, Little	(<u>Hordeum pusillum</u>)
Barnyardgrass	(<u>Echinochloa crus-galli</u>)
Corn, Volunteer	(<u>Zea mays</u>)
Crabgrass, Large	(<u>Digitaria sanguinalis</u>)
Eveningprimrose, Cutleaf	(<u>Oenothera laciniata</u>)
Fescue, Tall	(<u>Fescue arundinacea</u>)
Goosegrass	(<u>Eleusine indica</u>)
Mustard	(<u>Brassica spp.</u>)
Nightshade, Black	(<u>Solanum nigrum</u>)
Panic Grass	(<u>Panicum spp.</u>)
Pigweed, Redroot	(<u>Amaranthus retroflexus</u>)
Pineappleweed	(<u>Matricaria matricarioides</u>)
Quackgrass	(<u>Agropyron repens</u>)
Pigweed, Redroot	(<u>Amaranthus retroflexus</u>)
Ryegrass, Perennial	(<u>Lolium perenne</u>)
Sicklepod	(<u>Cassia obtusifolia</u>)
Timothygrass	(<u>Phleum pratense</u>)

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The following weeds are controlled by 1 to 1-1/2 qt. TOUCHDOWN Concentrate per acre:

Brome, Downy	(<u>Bromus tectorum</u>)
Cocklebur	(<u>Xanthium spp.</u>)
Dogbane, Hemp	(<u>Apocynum cannabinum</u>)
Hophornbeam, Copperleaf	(<u>Acalypha ostryaefolia</u>)
Johnsongrass, Rhizome	(<u>Sorghum halepense</u>)
Johnsongrass, Seedling	(<u>Sorghum halepense</u>)
Milkweed	(<u>Asclepias spp.</u>)
Purslane, Common	(<u>Portulaca oleracea</u>)
Radish, Wild	(<u>Raphanus raphanistrum</u>)
Ragweed, Giant	(<u>Ambrosia trifida</u>)
Shepherdspurse	(<u>Capella bursa-pastoris</u>)

The following weeds are controlled by 1-1/2 to 2-1/4 qt. TOUCHDOWN Concentrate per acre:

Ragweed, Common	(<u>Ambrosia artemisiifolia</u>)
Sida, Prickly	(<u>Sida spinosa</u>)
Thistle, Canada	(<u>Cirsium arvense</u>)

The following weeds are controlled by 2-1/4 to 3 qt. TOUCHDOWN Concentrate per acre:

Bermudagrass	(<u>Cynodon dactylon</u>)
Bindweed, Field	(<u>Convolvulus arvensis</u>)
Cogongrass	(<u>Imperata cylindrica</u>)
Nutsedge, Yellow	(<u>Cyperus esculentus</u>)
Sesbania, Hemp	(<u>Sesbania exaltata</u>)
Velvetleaf	(<u>Abutilon theophrasti</u>)

GENERAL INFORMATION

TOUCHDOWN Concentrate is a broad spectrum foliar herbicide for non-selective systemic control of vegetation only in the following noncrop areas around the farm:

Farmyards
Fuel Storage Areas
Fence Rows
Rights-of-way
Soil Bank Land
Barrier Strips

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Evidence obtained in laboratory and field tests suggest that:

- TOUCHDOWN Concentrate is effective in controlling regrowth of Rhizome Johnsongrass and Bermudagrass.
- TOUCHDOWN Concentrate is effective in rapidly desiccating weed foliage.

DIRECTIONS FOR USE

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

Apply this product only as specified on the label. Do not apply by aircraft.

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

Before mixing, calculate the amounts of water and TOUCHDOWN Concentrate and surfactant which will be used. Pour half of the water into the container, mix the TOUCHDOWN Concentrate and surfactant, and then mix in the remaining water to achieve the desired solution.

To control regrowth of Rhizome Johnsongrass or Bermudagrass, apply TOUCHDOWN Concentrate at near-seedhead stage or later.

SPRAY APPLICATION

For control of all weeds listed, apply TOUCHDOWN Concentrate at the rates indicated above (see WEEDS CONTROLLED BY TOUCHDOWN CONCENTRATE) as a tank mixture of two parts TOUCHDOWN Concentrate and one part of an appropriate surfactant or wetting agent in 10 to 30 gallons of water per acre, or in low volumes (1 to 2 gallons) per acre if applied by CDA (Controlled Droplet Application) equipment. A surfactant or wetting agent such as Ortho X-77*, Triton X-100*, or Tween 20* can be used with TOUCHDOWN Concentrate. Application must be made to actively growing weeds. When weed density is high the amount of water should be at the high end of the recommended range.

*Ortho X-77, Triton X-100, and Tween 20 are registered trademarks of the Ortho Division of Chevron, Rhom and Haas, and ICI Americas, respectively.

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WIPER APPLICATION

For control of all weeds listed, apply a mixture of two parts of TOUCHDOWN Concentrate, one part of appropriate surfactant, and six parts water using a wiper applicator. See SPRAY APPLICATION directions for surfactants or wetting agents which can be used. Application must be made to actively growing weeds. Careful adjustment of equipment height is required to avoid contact with non-target plants. The speed at which the equipment passes over the target plants is extremely critical and should not exceed 5 mph. Two passes in opposite directions provide better control than a single pass. Periodic cleaning of the wick is necessary if plant wax accumulation occurs. The wick should remain saturated at all times.

HAND-DIRECTED SPOT APPLICATION

For control of the weeds listed use a 1% to 3% solution of TOUCHDOWN Concentrate in water (2% to 3% for hard to control weeds) and surfactant as indicated in the table below. Spray the solution on actively growing foliage until uniformly wet but not to the point of runoff.

AMOUNT OF TOUCHDOWN CONCENTRATE AND SURFACTANT* FOR HAND-DIRECTED SPOT APPLICATION

Solution Strength	Final Volume					
	2 gallons		10 gallons		25 gallons	
	TOUCHDOWN Concentrate	Surfactant	TOUCHDOWN Concentrate	Surfactant	TOUCHDOWN Concentrate	Surfactant
1%	1/4 cup	1 fl. oz.	1-1/4 cups	5 fl. oz.	3 cups	1-1/2 cups
2%	1/2 cup	2 fl. oz.	2-1/3 cups	10 fl. oz.	1-1/2 qt.	3 cups
3%	3/4 cup	3 fl. oz.	3-1/2 cups	15 fl. oz.	2-1/4 qt.	4-1/2 cups

*See SPRAY APPLICATION directions for surfactants or wetting agents which can be used.

1 oz. = 2 tablespoons

2 oz. = 1/4 cup

STORAGE AND DISPOSAL DIRECTIONS

PROHIBITIONS: Do not contaminate water, food, feed, fertilizer or seeds by storage or disposal.

STORAGE: Keep container tightly closed when not in use.

PESTICIDE DISPOSAL: Rinse spray equipment. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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STORAGE AND DISPOSAL DIRECTIONS (CONT.)

CONTAINER DISPOSAL:

Plastic - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Metal - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or disposal in a sanitary landfill, or by other approved State and local procedures.

NOTICE TO BUYER AND USER: Seller 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 accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Seller, and Buyer and User assume the risk of any such use. SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.

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