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

005395

Date: July 29, 1982

Subject: EPA File Symbol: 38167-R
Bladex-MSMA Herbicide

From: Deloris F. Graham DFG 8/4/82
FHB/TSS CG 8/4/82

To: Robert Taylor
Product Manager (25)

Applicant: Setre Chemical Company
5100 Poplar, Suite 3200
Memphis, TN 38137

Active Ingredients:
2-4-chloro-6-(ethylamino)-s-triazin
-2-yl amino-2-methylpropionitrile 17.21%
Monosodium Acid Methanearsonate 34.35%
Inert Ingredients 48.44%

Background: Submitted Acute Oral, Acute Dermal, Acute Inhalation, Eye Irritation and Skin Irritation Studies. Studies conducted by Stillmeadow, Inc. Data under accession number 247705. Method of support not indicated.

Recommendation:

(1) FHB/TSS finds these data acceptable to support conditional registration of this product.

(2) The appropriate signal word is WARNING.

Label:

(1) The "If Swallowed" statement must be revised to include "give large quantities of water and induce vomiting by touching back of throat with fingers. Never give anything by mouth to an unconscious person."

(2) The "Keep out of lakes, ponds or streams" must be revised to "Do not apply directly to water."

Review:

(1) Acute Oral Toxicity Study: Stillmeadow, Inc; Project #2558-82; April 22, 1982.

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Procedure: Six groups consisting of 5 female Sprague-Dawley rats each received one of the following concentrations: 197, 295, 444, 545, 666 and 5010 mg/kg. Five groups consisting of 5 male Sprague-Dawley rats each received one of the following doses: 545, 666, 816, 1000 and 5010 mg/kg. Observations were made twice daily for 14 days posttreatment. Necropsy performed on all animals.

Results: At 197 mg/kg, 1/5 died; at 444 mg/kg, 5/5 died; at 545 mg/kg, 1/5 M and 5/5 F died; at 666 mg/kg, 2/5 M and 4/5 F died; at 816 mg/kg, 3/5 M died; at 1000 mg/kg, 4/5 died; at 5010 mg/kg, 5/5 M and 5/5 F died.

Toxic signs observed included activity decrease, body tremors, chromodacryorrhea, constricted pupils, convulsions, diarrhea, dilated pupils, epistoxis, lacrimation, mucoid diarrhea, nasal discharge, piloerection, polyuria, prolapsed penis, ptosis and salivation.

Necropsy revealed discoloration of the stomach and the intestinal contents, discoloration of the liver and adrenal glands, small intestines empty, heart walls very thick, heart chambers very narrow, discoloration of the stomach and intestinal mucosa, testes drawn into the abdominal cavity, stomach distended with gas.

LD50 for males 737.6 mg/kg with 95% confidence limits of 588.3 to 924.8 mg/kg. LD50 for females was 341.2 mg/kg with 95% confidence limits of 236.2 to 493 mg/kg. LD50 for males and females combined was 458.4 mg/kg with 95% confidence limits of 316.9 to 663 mg/kg.

Study Classification: Core Guideline Data.

Toxicity Category: II-WARNING

(2) Acute Dermal Toxicity Study: Stillmeadow, Inc.; Project #2559-82; April 27, 1982.

Procedure: Three groups consisting of 5M and 5F New Zealand rabbits each received one of the following doses at contact skin sites: 1470, 2020, and 2770 mg/kg. One group of 5M and 5F with intact skin was used as a control. There were four groups consisting of 5M and 5F which received one of the following doses at abraded skin sites: control group, 1470, 2020 and 2770 mg/kg. Treated areas were placed under occlusive wrap for 24 hour exposure. Observations were made at 1/2, 3 and 6 hours after treatment, and at least twice daily thereafter for 14 days. Necropsy was performed on all animals.

Results: In control group, 1/10 F died; at 1470 mg/kg, 3/10 M and 2/10 F died; at 2020 mg/kg, 6/10 M and 3/10 F died; at 2770 mg/kg, 4/10 M and 3/10 F died.

Toxic signs included activity decrease, body tremors, decreased defecation, decreased urination, diarrhea, discoloration of urine, emaciation, head cocked to left, lacrimation, possible leg paralysis, loose stool consistency, mucoid diarrhea, muscle tremors, nasal discharge, no defecation, no urination, rapid breathing, salivation, shallow breathing and small feces.

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Necropsy revealed diarrhea, emaciation, epistaxis, lacrimation, loose stool consistency, nasal discharge, polyuria, salivation, discoloration of the stomach and the intestinal mucosa and contents, entire gastrointestinal tract distended with gas, stomach ruptured, abdominal cavity filled with dark brown material, cysts on kidneys, serosal blood vessels pronounced along entire gastrointestinal tract, kidneys hard, stomach wall extremely thin, superficial indentations on the kidneys, discoloration of the gall bladder and the liver, hard yellow nodules on liver, discoloration of lungs, pleural cavity filled with tan liquid, nodules along small intestine, and urinary bladder completely full.

LD50 for males was 3053 mg/kg with 95% confidence limits of 885 to 10,527 mg/kg. LD50 for females was 2771 mg/kg with 95% confidence limits of 1289 to 5959 mg/kg. The combined male and female LD50 was 2937 mg/kg with 95% confidence limits of 1428 to 6042 mg/kg.

Study Classification: Core Guideline Data.

Toxicity Category: III-CAUTION

(3) Acute Inhalation Toxicity Study: Stillmeadow, Inc; Project #2560-82; June 7, 1982.

Procedure: Two groups consisting of 5M and 5F rats were exposed for four hours to one of the following concentrations: 0.179 mg/l and 0.628 mg/l. Mean temperature ranged from 74.8 to 75.3°F and the mean humidity ranged from 59.4 to 70.3%. Mass median diameter was 2.769 to 3.231 micrometers with a geometric standard deviation of 1.578 to 1.864. The analytical concentrations were 0.179 and 0.628 mg/l, the gravimetric concentrations were 1.63 and 1.48 respectively, and the nominal concentrations were 9.82 and 1.16 respectively. Observations were made frequently on day of exposure and twice daily thereafter for 14 days. Necropsy performed on each animal.

Results: No mortalities. Toxic signs included activity decrease, chromodacryorrhea, constricted pupils, diarrhea, epistaxis, lacrimation, piloerection, polyuria and salivation. No observable abnormalities at necropsy. LC50 greater than 0.628 mg/l.

Study Classification: Core Guideline Data.

Toxicity Category: III-CAUTION

(4) Eye Irritation Study: Stillmeadow, Inc.; Project #2560-82; March 18, 1982.

Procedure: Nine rabbits received 0.1 ml of the test material in one eye each. The treated eyes of three of the rabbits were washed 30 seconds posttreatment. Observations were made at 1, 24, 48 and 72 hours, and at 4 and 7 days after treatment.

Results: No corneal opacity or iris irritation at 24 hours, however 6/6 animals of the unwashed group and 3/3 animals of the washed group had redness (5/6=1, 1/3=2)(1/3=1, 2/3=2); 1/6 and 2/3 chemosis (1/6=1)(2/3=1). Redness clear in all animals by day 4.

Study Classification: Core Guidelines Data.

Toxicity Category: III-CAUTION

(5) Primary Skin Irritation Study: Stillmeadow, Inc.; Project #2561-82; March 24, 1982.

Procedure: Six rabbits received 0.5 ml of the test material in two intact and two abraded skin sites per animal under occlusive wrap for 24 hour exposure. Observations were made at 24 and 72 hours after exposure and daily thereafter through 11 days.

Results: At 24 hours, 6/6 had erythema (1/6=1, 3/6=2, 2/6=3) and edema (1/6=1, 3/6=2, 2/6=3). At 72 hours, 6/6 erythema (6/6=2) and edema (2/6=1, 4/6=2). Slight irritation persisted thru day 10. Primary Irritation Score 3.33. Beige discoloration of test site hairs.

Study Classification: Core Guideline Data.

Toxicity Category: III-CAUTION

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BLADEX-MSMA HERBICIDE

ACTIVE INGREDIENTS	% BY WEIGHT
2-4-chloro-6-(ethylamino)-s-triazin-2-yl amino-2-methylpropionitrile	17.21%
Monosodium Acid Methanearsonate	34.35%
INERT INGREDIENTS	48.44%
TOTAL	100.00%

Total arsenic, all in water soluble form, expressed as elemental 15.9%

One gallon of Bladex-MSMA Herbicide contains two (2) pounds of Bladex and four (4) pounds of MSMA.

KEEP OUT OF REACH OF CHILDREN
WARNING
See Additional Precautions on Side panel

EPA Reg. No. _____ Net Contents _____
EPA Est. No. _____

Manufactured by Setre Chemical Company
Memphis, Tn. 38137

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

May be fatal if swallowed, inhaled, or absorbed through the skin. Do not breathe vapors, or spray mist. Do not get in eyes, on skin or on clothing.

STATEMENT OF PRACTICAL TREATMENT

If Swallowed: Induce vomiting by touching back of throat with finger, get medical attention.

If in Eyes: Flush with water for at least 15 minutes, get medical attention.

In on Skin: Wash thoroughly with soap and water, get medical attention.

ENVIRONMENTAL HAZARDS

Keep out of lakes, ponds, or streams. Do not contaminate water by cleaning of equipment or disposal of wastes.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

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Directions For Use

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

STORAGE AND DISPOSAL

Storage: Do not store near feed, food or water.

Disposal: Triple rinse (or equivalent) and offer for recycling or reconditioning, or dispose of in a sanitary landfill, or by other approved, State and local procedures.

APPLICATION DIRECTIONS

Setre Bladex-MSMA herbicide is effective as a directed postemergence treatment for the control of certain broadleaf weeds. Bladex-MSMA herbicide may be used in Alabama, Arkansas, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Gulf Coast, Coastal Bend and Blacklands only.

Bladex-MSMA herbicide may be applied postemergence following a preemergence application of Bladex. For coarse soils, apply no more than one postemergence and one preemergence application to the same crop in any one year. For medium and fine soils, apply no more than two postemergence and one preemergence application to the same crop in any one year.

MIXING AND SPRAYING

Application equipment should be thoroughly cleaned if another pesticide has been previously used.

Sufficient agitation should be provided during the filling operation and application to insure uniform mixing. Fill the spray tank with one-half (1/2) full of clean water and while pump and agitator are running, add the recommended amount of Bladex-MSMA herbicide. Fill with water to desired level.

Allow the spray mixture to agitate for several minutes prior to application. If the mixture is allowed to stand in a spray tank or nurse tank for an extended period of time (several hours to overnight), agitate for several minutes prior to application.

Apply with flat fan nozzles (even distribution flat fan for band application) with 50 mesh nozzle and in-line screens. Apply at 20-40 psi and avoid drift. Apply in properly calibrated spray equipment.

COTTON: Directed Postemergence: Apply Setre Bladex-MSMA herbicide after cotton is 6 inches tall but before first bloom, and before weeds are 2 inches tall. The spray should be directed to the soil around the base of the cotton plants, taking care to prevent spraying of cotton foiage, as injury will occur. Maximum coverage of uses is important for good control. Apply 1.2-2.0 quarts braodcast, 0.4-0.6 quarts on a 12 inch band and 0.6-1.0 quarts on a 19 inch band (38 inch rows) in 15-30 gallons of spray solution per sprayed acre. Addition of an approved (40 CFR .180 .1001) nonionic spreader surfactant at a rate of 1-2 quarts per 100 gallons of water (as directed by manufacture) is recommended.

Weeds Controlled: Cocklebur, prickly sida (leaved), annual morninglory (tall, smallflower, small white, ivyleaf), pigweed (redroot, sping), Johnsongrass, nutgrass, watergrass, goosegrass, dallisgrass and spotted spurge.

Do not graze or feed foliage from treated areas to livestock.

NOTICE OF WARRANTY

Setre Chemical Company warrant that this material conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the Directions for Use and Conditions of Sale, subject to the inherent risks referred to therin.

Setre Chemical Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY, and no agent of Chemical Company is authorized to do so except in writing, with a specific reference to this warranty. Any damages arising from a breach of this warranty shall be limited to direct damages, and not include consequential commercial damages such as loss of profit or value, etc.