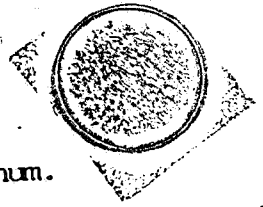


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

21



DATE: March 26, 1979

SUBJECT: No. 524-GEI, Ramrod and Atrazine herbicide, flowable on corn and sorghum. Application for new registration. Caswell No. 63 and 194.

FROM: John Doherty *John Doherty 7/12/79*
Toxicology Branch/HED (TS-769)

Boyd 4/13/79

TO: Robert Taylor (TS-767)
Product Manager #25/RD

Product: Flowable Ramrod and Atrazine
(herbicide mixture)

Active Ingredients

Propachlor	31.5%
Atrazine and related atrazine compounds	10.5%
Inerts	58.0%

40 CFR 180.211 (Propachlor) and 220 (Atrazine) have set tolerances for the active ingredients on the crops proposed on the label (as per conversation with R.S. Quick, Chemistry Branch, 3/21/79).

The inerts are cleared under 180.1001 except [redacted] which could not be identified (as per conversation with D. Ritter and J. Shaughnessy on 3/21/79).

Conclusion:

- 1.) This product has sufficient acute toxicity data to support a Warning label.
- 2.) [redacted] must be positively identified and cleared for food use before this product can be registered for use on agricultural products for food use.
- 3.) On the condition that [redacted] is "cleared" for the proposed use, Toxicology Branch has no further objection to the registration of the subject product.
- 4.) On the condition that the residue levels do not exceed the established tolerance levels on corn and sorghum

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Inert ingredient information deleted.

Atrazine / Review #24 / 3-26-79 / 6 pages

Releasable

(2,a)

Summary of acute toxicity with Ramrod and Atrazine Flowable
(EPA No. 524-GEI)

		<u>TOX. CATG.</u>	<u>CORE CLASSIF.</u>
Acute Oral LD ₅₀ (rats ♂, ♀)	3,800 (3,270-4,410 mg/kg)	III	Minimum
Acute Dermal LD ₅₀ (rabbits)	> 5,010 mg/kg	III	Minimum
Eye Irritation (rabbits)	corneal dullness	III	Minimum
Skin Irritation (rabbits)	6.0/8.0	II	Guideline
Acute Inhalation LC ₅₀ (rats)	9.5 mg/Li	III	Minimum

The acute oral and dermal studies were upgraded from SUPPLEMENTARY to MINIMUM from a previous memo (see Ray Landolt memos (3) dated December 8, 1978, concerning registrations for the states of Kansas, Missouri, and Nebraska and addressed to R. Taylor, PM #25). Ray Landolt concurs with the upgrading of these studies (personal communication on 3/21/79).

Review of Studies Submitted

- 1.) Acute Oral LD 50, Younger Laboratories, study number Y-78-139, dated August 14, 1978.

Six groups of 5 rats (2 or 3 M or 3 or 2F) were dosed with 2,000, 2,510, 5,010, 3,160, 3,980, or 6,310 mg/kg of Ramrod-Atrazine Flowable.

An LD50 of 3,800 (3,270-4,410) mg/kg was determined. The time for mortality was 1 to 3 days with most deaths within one day. Signs of intoxication included weight loss, increasing weakness, salivation, collapse, and death. Autopsy revealed hemorrhagic lungs, areas of liver discoloration, acute gastrointestinal inflammation.

This test was initially classified Supplementary. 4 rats of each sex should have been used. The rats should have been fasted prior to the test.

It was decided to upgrade this study to Core Minimum because this test demonstrates that this product is a category III toxicant by the oral route and it is unlikely that a more toxic classification would be assigned if the test were repeated. Toxicity Category III.

- 2.) Acute Dermal Toxicity
Younger Laboratories, Y-78-139, August 14, 1978.

Rabbits were dosed with 3,160, 5,010 or 7,940 mg/kg of Ramrod-Atrazine flowable, applied undiluted.

An LD50 of >5,010 mg/kg is stated. Two of the three rabbits dosed with 7,940 mg/kg died. Signs of intoxication included weight loss, increased weakness, collapse and death. Autopsy revealed hemorrhagic areas of the lungs, liver discoloration, enlarged gall bladder, and gastrointestinal inflammation. The viscera of the survivors appeared normal.

This test was initially classified Supplementary. The preparation of the rabbits is not stated and the number of rabbits used per dose is not clear.

It was decided to upgrade this study to Core Minimum because this test adequately demonstrates that this product is a category III toxicant by the dermal route. Toxicity Category III.

3.) Eye Irritation

Younger Laboratories, Y-78-139 August 14, 1978

0.1 ml of Ramrod-Atrazine flowable was applied to the conjunctival sac of each of six rabbits. No attempt was made to irrigate the treated eyes. Corneal dullness developed in 5/6 rabbits. This dullness was reversible within 7 days. This test is Core Minimum. Toxicity Category III.

4.) Primary Skin Irritation

Younger Laboratories, Y-78-139, August 14, 1978

0.5 ml of Ramrod-Atrazine Flowable was applied undiluted to the skin of six rabbits.

An irritation score of 6.0/8.0 was determined. All rabbits were equally affected.

This test is Core Guideline. Sufficient information to classify this product as a category II irritant has been obtained.

5.) Acute Inhalation

Younger Laboratories, Y-78-139, August 14, 1978

None of 6 rats died when exposed to an atmospheric concentration of 9.5 mg/Li of Ramrod-Atrazine Flowable for 6 hours.

This test was initially classified Supplementary. No information on how the sample was generated, particle size or atmospheric concentrations or description of the chamber is given.

It was decided to upgrade this test to Core Minimum because it is apparent that inhalation of this product does not represent a serious toxicological hazard when used as directed. Toxicity Category III.

Acute Dust Inhalation Study with Ramrod. Industrial Bio-Test #663-06289.

10 rats, 5 M and 5 F, were exposed to a dust of Ramrod 65 WP (EPA Reg. No. 524-153) generated through a "ferris wheel" dust mechanism. The chamber was of 80 liters capacity and the air flow was 50 L/min. The exposure period was 6 hours.

(4)

2/10 rats died. The concentration of the atmosphere was determined to be 4.13 mg/L. 46% of the particles counted were less than 11 microns in size or respirable. No gross tissue changes attributable to the effects of the test material were observed. Toxic signs included hypoactivity, ptosis, dyspnea, lacrimation, and salivation.

This test is Core Minimum. Toxicity Category III.

RD initial EBudd
3/22/79:lf
TOX/HED/OPP

to umbreller

FLOWABLE

Ramrod

AND

atrazine

HERBICIDE MIXTURE

BY

Monsanto

Selective herbicide for preemergence weed control in field corn, hybrid seed corn, silage corn, sweet corn and grain sorghum (milo).

SHAKE WELL BEFORE USING

Read the entire label.
Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

WARNING!

HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN.
CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
Do not get in eyes, on skin, or on clothing.
Keep container closed.

While handling, wear rubber gloves.
Wash thoroughly after handling.

FIRST AID IN CASE OF CONTACT immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing. For eyes call a physician. Wash clothing before reuse.

IF SWALLOWED, drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger or blunt object. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

Environmental Hazard

This product is toxic to fish and wildlife. Keep out of lakes, streams, or ponds. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated.

Apply this product only as specified on this label.

Storage and Disposal

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

Do not reuse container. Dispose of in an incinerator or landfill approved for pesticide containers, or bury in a safe place.

STORE ABOVE 20° F AND BELOW 100° F. TO KEEP PRODUCT IN SUSPENSION.

Below 20° F the product may freeze. If frozen, place in a warm room (72° F) and roll and shake the container for several days to thaw before using.

Above 100° F the product may become thick and unsprayable.

Avoid contamination of seed, feed and foodstuffs.

Do not contaminate any body of water.

Do not reuse container. Destroy when empty.

ACTIVE INGREDIENTS:

- Propachlor, (2-chloro-N-isopropylacetanilide)
- Atrazine, [2-Chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine]
- Related atrazine compounds

INERT INGREDIENTS

*Contains 3 pounds of propachlor per gallon, 1.5 pounds of atrazine and related atrazine compounds per gallon.

NET 2.5 G

In case of an emergency involving this product, call Collect, day or night, (314) 594-1000.
MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63165 U.S.A.