

US EPA ARCHIVE DOCUMENT

EPA.#	Date	Product Name	U. Classification	Toxicit. Categor.
1812-ERI	2/14/77	Flowable Atrazine	03	II

RECOMMENDATION: register other (explain)

The following studies are required in order to support toxicity requirements for registration:

- 1) eye wash study - formulation
- 2) teratology
- 3) mutagenicity
- 4) chronic feeding
- 5) oncogenicity
- 6) reproduction
- 7) metabolism
- 8) subacute oral

Provide Confidential Statement of Formula

	TECH	FORMULATION	USE DILUTION	DATA ACCEPTABLE
				ABLE
Acute Oral (Rat) LD50		1.93g/Kg		yes

Toxic signs: excessive salivation, diarrhea, prostration, lacrimation, chromodacryonema

Comments: 5 dosage levels were used with 10 animals of mixed sex per dosage level mortality ranged from 0-100%

95% C.L. (1.64-2.22)g/Kg

cat. III.

Acute Dermal (Rabbit) LD50	> 16g/Kg	yes
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Toxic signs: slight dermal irritation at 24 hrs.

Comments: a single dosage level was used tested on 6 animals, one death occurred which was probably unrelated to treatment

Dermal toxicity has been defined. It is unnecessary to apply > 5g/Kg according to CFR 162.81(b)(3)(1)

cat III

Acute Inhalation (Rat) LC50	> 7.31mg/L	yes
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Toxic signs: epistaxis, nose, sneezing, nasal mucus discharge - no wt loss over 2 wk period

autopsy: pulmonary lymph nodes enlarged in 2/10 animals

5M & 5F were exposed to an analytical concentration of 7.31mg/L for 7 hr (as well) particles were of respirable size, no deaths occurred

cat III

Primary Eye Irritation (Rabbit) Draize score:	*	yes
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Comments: * corneal stippling in 3/6 animals clearing by 72 hrs conjunctivitis in 4/6 animals clearing by Day 7.

cat II

Primary Skin Irritation (Rabbit) Draize score:	0.09 / 8.00	yes
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Comments:

cat IV

Other Studies:

* label must be upgraded to conform to S-76B Enclosure due to eye irritation (as well as including precautions against inhalation of spray mist - already on label)

Note: In accordance with the Oct 20, 1976 memorandum on "Registration Action on Chemicals Potentially Containing Nitrosamines" any further registration action on this product should be suspended until further notice.

FLOWABLE ATRAZINE - 36 pt.

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Active Ingredient:.....43.0% - 14 pt

Atrazine (2-chloro-4-ethylamine-6-isopropylamino-s-triazine)...40.8%
Related Compounds.....2.2%

Inert Ingredients:.....57.0%
Total.....100.0%

Contains 4 lbs. Active Atrazine Per Gallon

KEEP OUT OF REACH OF CHILDREN - 14 pt

CAUTION

See side panel for Precautionary Statements

Parramore & Griffin 11. pt.
Valdosta, Georgia

EPA Est. No. 1812-Ga.-1

EPA Est. No. 1812-

Net Contents: 5 Gallons

GENERAL INFORMATION - 2 pt

Flowable Atrazine Herbicide controls most annual broadleaf and grass weeds in corn and sorghum.

Apply at the rates given under each crop before or after weeds emerge

Use lower rates on light soils and low organic matter soils. Use high rates on heavier soils and high organic matter soils.

Atrazine acts mainly through root absorption so rainfall or irrigation is needed to move it into the root zone. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

For combining with Atrazine, use a crop oil designated for use with Atrazine containing at least 1% suitable emulsifier. Oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

Equipment Procedures for Atrazine and Emulsifiable Oil: 1. Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4- or other materials as crop damage or sprayer clogging may result.

2. Fill the spray tank with water, allowing for the addition of Atrazine.

3. With the agitation system in operation, add the Atrazine. 4. Add the emulsifiable oil last. 5. Empty the tank as completely as possible before refilling to prevent a buildup of oil in the tank. Keep the

agitation system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank. 6. If an

oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 7. Clean the sprayer

thoroughly immediately after use by flushing the system with water containing a detergent.

NOTE: 1. Do not use oil in Atrazine sprays when corn or sorghum is under stress from prolonged cold, wet weather, poor fertility, or other

factors or when corn or sorghum is wet and succulent from recent rain as crop injury may occur. 2. Do not use oils in sprays when treating

inbred lines or any breeding stock as injury may occur. 3. Adding other insecticides, herbicides, liquid fertilizers, or other materials is

not recommended because they may cause compatibility problems or crop injury. 4. Store and handle emulsifiable oil carefully. Oil containing

with even a small amount of water may not emulsify properly when added to the tank. 5. Do not make more than one application of Atrazine and

emulsifiable oil in water per season. 6. All return lines to the tank must discharge below liquid level.

...may cause irritation of eyes, nose, throat and skin...
of spray mist. Avoid contact with skin, eyes, or clothing.
In case of contact, flush with plenty of water. For eyes - Get medical atten

Keep this product away from domestic animals and foodstuff.

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 treated areas. Do not contaminate water by cleaning or disposal of wastes.

NON-FLAMABLE

Directions For Use - 2 pt

General Classification

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

STORAGE AND DISPOSAL - 10 pt.

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. Pesticide, spray mixture or rinse that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supply. Triple rinse (or equivalent) and dispose in an incinerator or landfill approved for pesticide containers, or bury in a safe place.

APPLICATION PROCEDURES - 2 pt

Flowable Atrazine, a liquid formulation, should be mixed with water or liquid fertilizer and applied as a spray. Pour Flowable Atrazine into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application to keep the material in suspension. All return lines to the tank must discharge below liquid level and agitation should not be so violent as to cause air bubbles to form in the liquid. Wash sprayer thoroughly after use.

GROUND APPLICATION: Apply Flowable Atrazine in 10-40 gallons of water per acre to assure even coverage unless otherwise specified. Use TeeJet 8002, 8003 or 8004 fan type or other appropriate nozzles with equal or greater size openings for broadcast applications. Use TeeJet 8002-E, 8003-E or 8004-E or similar nozzles for band applications. Screens in nozzles and in suction and in-line strainers should be no finer than 50-mesh. Use a pump with capacity sufficient to maintain 35-40 psi operating pressure.

AERIAL APPLICATIONS: Use only where broadcast applications are specified. Apply a minimum of 1 gallon of water for each 2 pints of Flowable Atrazine to be applied per acre. Do not apply where uniform coverage cannot be obtained or where excessive spray drift may occur. Avoid application directly to animals or humans. Flaggers or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation.

Post-emergence Weed Control with Atrazine plus Emulsifiable Oil in Water. The addition of oil in Atrazine in water sprays may speed the activity of Atrazine and provide quicker kill of weeds. However, under certain conditions the use of oil may seriously damage corn or sorghum. To minimize the possibility of damage, follow the directions and precautions given below:

Precautions: 1.) Heavy rains immediately following application tend to result in excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted sorghum should not be made until furrows are leveled (plowed-in). Deep planter marks or seed furrows should also be leveled before application. 2.) Application made to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soils may result in crop injury.

3.) Do not plant any rotational crops other than those specified in the Suggestions For Rotational Crops section for 18 months following application.

4.) Do not graze or feed forage from treated areas for 21 days following application. 5.) Following harvest of a treated crop, plow (moldboard or disk) and thoroughly till the soil in fall or spring to minimize possible injury to rotational springseeded crops, regardless of the rate used.

Suggestions For Rotational Crops:

1.) Sorghum or corn may be planted the year following treatment. 2.) All other rotational crops may be planted 18 months after application. 3.) When the broadcast rate used does not exceed 2½ pts. per acre fall wheat may be planted 15 months after application.

The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practices. The buyer must assume all responsibility, including injury or damage, resulting from its misuse or in combination with other products.

Application will control most annual broadleaf and grass weeds such as barnyard grass, witchgrass (*Panicum capillare*), yellow foxtail, green foxtail, wild rice, large (hairy) crabgrass, giant foxtail, velvetleaf, morningglory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard.

Flowable Atrazine may be applied either before planting, at planting or after planting at the rate indicated below. For preplant and pre-emergence application nitrogen solutions or complete liquid fertilizers may replace all or part of water as a carrier of Flowable Atrazine. Do not apply after corn has emerged there is danger of liquid fertilizers causing crop injury.

Preplant:

Broadcast in the spring after plowing at the rate indicated below. Apply before plowing, or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of Flowable Atrazine. Best results have been obtained when Atrazine is applied within two weeks prior to planting.

Pre-emergence:

Apply during or shortly after planting prior to weed emergence at the rate indicated below.

Post-emergence:

Apply before weeds exceed 1 1/2 inches in height at the rate indicated below.

Soil Texture	Rate per acre of Flowable Atrazine		
	Broadcast in 10-40 gals. of water / A	20-inch band in 5-20 gals. of water / A	13 inch band in 4-14 gal of water /
Light soils: Sands, foamy sands and sandy loams	4 pints	2 pints	1 1/2 pints
Medium soils: Silt and clay loams that are low in organic matter	4 3/4 pts	2 1/2 pts	1 1/2 pints
Heavy Soils: Silt and clay loams with medium to high organic matter and clays	6 pts.	3 pts.	2 pts.
Peats, mucks, and high organic clays (apply post-emergence only)	6 pts	3 pts.	2 pts.

Based on 40-inch row spacing. For other band or row widths, adjust the rate in proportion to the area actually treated.

Northern Nutgrass or Yellow Nutsedge (*Cyperus esculentus*) Control: Broadcast 4 pts. per acre preplant, pre-emergence, or post-emergence before nutgrass is more than 1 1/2 inches high. If applied before nutgrass begins growth, cultivate within 2-3 weeks after nutgrass has emerged, cultivate within 10-14 days.

Quackgrass Control on Land Going Into Corn Production:

Split Application: Broadcast 4 pts. per acre in the fall or spring and plow 1-2 weeks later. Broadcast a second application at the rate of 4 pts. per acre in the spring before, during, or after planting but before weeds are 1 1/2 inches high.

Single Application: Broadcast 6-8 pts per acre in the fall or spring. Plow 1-2 weeks later.

Post-emergence Weed Control With Atrazine Plus Emulsifiable Oil In Water:

Ground Application: Broadcast 4 pts. of Atrazine and 1/2 gal. of emulsifiable oil in 10-40 gals. of water per acre after emergence but before weeds reach 1 1/2 inches high.

Aerial Application: Broadcast 4 pts. of Atrazine and 1/2 gal. of emulsifiable oil in no less than 5 gals. of water per acre after weed emergence but before weeds reach 1 1/2 inches high.

Precautions:

- 1.) Do not apply more than 8 pts. of Flowable Atrazine to corn in more than one year.
- 2.) Land treated with Atrazine should not be planted to any crop except corn until the following year or injury may occur.
- 3.) Following harvest of a treated crop, plow (moldboard or diskplow) and thoroughly till the soil in fall or spring to minimize possible injury to the rotational spring-seeded crops, regardless of the rate used.
- 4.) If Atrazine is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.
- 5.) If Flowable Atrazine is used at higher broadcast rates than 6 pts. per acre (or comparable rates in band application), a crop of untreated corn or sorghum should precede the next rotational crop.
- 6.) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use Atrazine for control of weeds in corn only when corn is to follow corn or a crop of untreated corn or sorghum is to precede other rotational crops.
- 7.) In western Minnesota and northern parts of the Dakotas, Nebraska and Kansas, corn treated with Atrazine should be followed with soybeans if the broadcast rate applied was more than 4 pts. per acre (or comparable rate in a band) or injury may occur.
- 8.) Do not plant sugarcorn, beets, tobacco, vegetables (including dry beans), spring-seeded small grains, small-seeded legumes and grasses the year following Atrazine application or injury may occur.
- 9.) Do not graze sorghum and Sorghum-Sudan Hybrids (Grain and Forage)

Entire label will be in red & green ink.

Right panel will be in 8 pt. type