

US EPA ARCHIVE DOCUMENT

~~Classified~~

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TXR-362

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000362

Acute Toxicity Studies with Ortho Paraquat Concentrate 3⁰

Oral, dermal & skin & eye irritation potential

- Dark liquid formul. containing 3 lbs par. ion/gallon. Acc. to the label, signal word "Danger" & crossbones, this formulation has 43.5% par. ion and 56.5% inerts (what!). The formul. of ORTHO Par. Conc. 3, used in this study, had 34.4% par. ion. • by wt.

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(Notes taken from microfiche)

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Ortho Paraquat 3 Concentrate

A series of acute toxicology studies have been conducted on ORTHO Paraquat Concentrate 3. The material used in this study was coded SX-894. A Summary of these studies is listed below.

<u>Toxicity test</u>	<u>Tox. Cat.</u>	<u>Animal</u>	<u>Code</u>	<u>Results</u>
Oral LD ₅₀	I	Rat	Minimum	189 mg/kg — males 125 mg/kg — females
Dermal LD ₅₀	I	Rabbit	Minimum	174 mg/kg
Eye irritation potential	I	Rabbit	Minimum	Corrosive; severe eye irritant producing corneal opacity, severe pannus and conjunctival necrosis in all animals. Corneal opacity persisted at 14 days. One animal died 9 days after treatment.
Skin irritation potential	III	Rabbit	Minimum	Slight to moderate skin irritant. The primary irritation score was 2.1

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S-1101

THE ACUTE ORAL TOXICITY OF
PARAQUAT 3 LBS/GAL CONCENTRATE

SOCAL 1058 /31:44 . 8/1/77

Tox. cat. II

Core - Minimum

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Acute oral

Single doses of the undiluted test material were given to M and F rats. Doses ranged from 100-400 mg/kg for males and 70-400 mg/kg for females. Signs of toxicity observed were depression, weakness, reduced food consumption, & death. At autopsy, no gross pathological changes were observed that could be attributed to the test material.

	ion	LD ₅₀ (95% limits)	Slope (95% limits)
Males	65	189 (90-398 mg/kg)	1.7 (0.73-3.8)
Females	43	125 (62-251) mg/kg	2.0 (.93-4.2)

Animals: Sprague-Dawley, 211-244 g (M) and 204-233 g (F)

Dosage: Males: 100, 170, 260, 400 mg test mat. /kg^{*}
Females: 70, 100, 170, 260, 400 mg /kg

(Paraquat Conc. 3 was analyzed on 11/77 and it contained 34.4% par. cation; acc. to the label, it is 43.5% par. ion.)

Used 5M + 5F/level + controls

* equivalent to mg par. ion/kg:
Females: 70 mg = 24.08 mg ion
Males: 34.4, 58.48, 89.44 and 137.6

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Tox. Cat. I
Core Min.

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S-1102

THE ACUTE DERMAL TOXICITY OF ORTHO
PARAQUAT 3 LBS/GAL. CONCENTRATE (using
the standard occluded method).

SOCAL 1059/29:40

7/22/77

Dose [⊗]	$\frac{mg}{in}$	Mortality
82	28.21	0/6
143	49.19	2/6
250	86.00	5/6
438	150.67	6/6

Used male New Zealand
rabbits

⊗ mg/kg test material

■ Intact + occluded skin

LD₅₀ = 174 (^{27.52 - 129.34} 80-376) mg test mat. / kg = 59.9 mg paraquat cation / kg

Ortho Par. 3 conc. contained 34.4% para. ion.

Signs of toxicity: reduced food intake, diarrhea, depression, ataxia, weakness, bloody urine, pulmonary rates, convulsions, collapse, & death.

Findings at autopsy: hemorrhagic edematous lungs, discolored grainy livers, soft vascularized kidneys, and less than a normal amount of body fat ————— were observed in some rabbits. 5

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Tox. cat I

Minimum

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S-1103

THE EYE IRRITATION POTENTIAL OF ORTHO

PARAQUAT 3 lbs/gal concntrate.

SOCAL 1060/30:70

8/1/77

Dose: 0.1 ml of the test material - 34.4 mg per. ion, based on the analysis of this formulation (34.4% per. ion).

Animals: 6 rabbits (sex: M) Draize scoring.

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Results:

24 hrs after dosing: moderate conjunctival redness, slight chemosis — present in most eyes.

At 72 hrs: severe redness and a very heavy purulent discharge.

At 7 days: slight-dense corneal opacity, mild iritis, roughened corneas, and conjunctival necrosis were observed in most eyes.

At 9 days: 1 rabbit died.

At 10 days: severe pannus in all eyes.

At 14 days: 3 rabbits had complete opacity and all still had severe pannus.

The purulent discharge ran down from the rabbits' eyes into their mouths. Severe burning of the mucosa in the mouth & nose were observed in most animals and drastically reduced food intake was observed from this time on in the study. One rabbit, which has not been eating for 6 days, was found dead 9 days after treatment. His mouth was ulcerated & bleeding.

cat. III
Minimum

S-1104

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THE SKIN IRRITATION POTENTIAL OF RTHO

PARAQUAT 3 LBS / GAL CONCENTRATE

SOCAL 1061/30:71 8/1/77

0.5ml of test mat. (172 mg per ion) applied to 6 abraded & 6 unabraded rabbits (males).

Very slight to moderate to severe erythema and very slight to slight edema were observed during the 7-day observation period. One rabbit was dead 6 days after application.

The primary irritation score was 2.1.

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