

# PESTICIDE FACT SHEET

## MCPA

MCPA, 2-methyl-4-chlorophenoxyacetic acid, is a post-emergent herbicide for use on crops and turf. It is usually used in combination with the herbicides MCPP and dicamba. It is manufactured by several companies and sold under a variety of trade names. TruGreen<sup>®</sup> ChemLawn purchases products containing MCPA from PBI Gordon Company and Riverdale Chemical Company. The PBI Gordon emergency telephone numbers are: (816) 421-4070; after hours, (913) 342-8783. The Riverdale information number is: (800) 345-3330.

### ACUTE TOXICITY

Formulation	Oral LD <sub>50</sub> (mg/kg)	Dermal LD <sub>50</sub> (mg/kg)	Toxicity Rating*
MCPA, technical	1,470	>4,000	Moderately Toxic
TruGreen <sup>®</sup> ChemLawn Tank Mix 0.1% MCPA	>15,000	>5,000	Practically Nontoxic

\*Gosselin R., Smith R., Hodge H., *Clinical Toxicology of Commercial Products, Fifth Edition, PP. V1-3, Williams & Wilkins, 1984.*

**A typical application may contain up to 0.21% active ingredient in a water-based solution. A dilute water-based solution containing up to 0.64% active ingredient may be applied by use of a hand-held sprayer. MCPA is used as a post-emergent herbicide to control weeds.**

Undiluted (technical) MCPA is a skin and eye irritant. As expected, the irritant effects decrease with dilution. The end-use dilution used by ChemLawn was not an irritant when tested on the rabbit or on human volunteers. There was no evidence of skin sensitization in tests on guinea pigs and human volunteers.

### CHRONIC TOXICITY

Two studies, one of four-weeks' duration and another of one-year's duration, were conducted in dogs. In the four-week study, doses of 6, 8, 20 and 32 mg/kg were given in either gelatin

capsules or by dietary feeding. The highest dosage group exhibited dry and dull haircoats, but otherwise appeared to be normal. There were minor dose-related alterations in kidney function (blood urea nitrogen) and liver function tests. However, there was no microscopic evidence of kidney or liver pathology.

The one-year study in dogs was conducted by dietary feeding of MCPA at concentrations of 6, 30 and 150 ppm that resulted in dosages of approximately 0.2, 1.0 and 4.0 mg/kg/day. There was growth retardation in males and altered kidney function in animals that received 4 mg/kg. There were no observed effects at 0.2 mg/kg.

A two-year chronic feeding study of MCPA was conducted in rats at dietary concentrations of 0, 20, 80 and 320 ppm

MCPA. There was a slight decrease in weight gain of males fed 320 ppm. There were increased kidney weights and altered liver function in animals fed 320 ppm.

Mice fed 500 ppm for two years had evidence of toxicity to the kidney, though this did not affect survivability. There were no significant effects in mice fed 20 ppm or 100 ppm.

There was no evidence of a carcinogenic effect in either mice or rats fed MCPA for two years. MCPA does not bind to DNA, but had a weak effect on sister chromatid exchange in rats that received an acutely toxic dose, 1,200 mg/kg.

A three-generation reproductive study was conducted in rats at dietary levels of 0, 50, 150 or 450 ppm MCPA. The body weight gains of rats in the 150 and 450 ppm groups were lower rates than controls. Male fertility was decreased in the 150 ppm, but not in the 450 ppm group. There were no significant differences in the survival rates of the newborn from MCPA treated groups.

Teratogenicity studies were conducted in rabbits and rats. Rabbits were treated with MCPA at oral dosages of 5, 12, 30 and 75 mg/kg. The mean number of fetuses were lower in the MCPA treated groups, but there were no teratogenic effects. Rats were treated with oral doses of 20, 50 and 125 mg/kg. There were no significant differences between treated and control groups.

## **ENVIRONMENTAL TOXICITY**

MCPA degrades in soil primarily as a result of microbial activity with a half-life ranging between 20 and 60 days. MCPA salts are stable in water.

MCPA is slightly toxic to freshwater fish, has low toxicity for aquatic organisms and did not biomagnify in an aquatic terrestrial ecosystem. MCPA acid is moderately toxic to avian species. The dietary LC<sub>50</sub> is greater than 2,000 ppm.

## **PRODUCT LABEL PRECAUTIONARY STATEMENTS**

The following precautionary statements from the Riverdale Tri-Power® Selective Herbicide label refer to the application of end-use dilutions of this product:

*Do not enter area until sprays have dried. Drift or runoff may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.*

**Provided as a service of TruGreen<sup>®</sup>ChemLawn  
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A pesticide information profile prepared by the Cooperative Extension Toxicology Network is available for this pesticide from the TruGreen<sup>®</sup>ChemLawn regional office or via the internet at <http://sulaco.oes.orst.edu:/70/1/ext/extoxnet>