

A PANAP Factsheet Series
**Highly Hazardous
Pesticides**
Atrazine

Hazard to children: potential developmental effects, immunotoxic, endocrine disruptor; later in life cancer, male reproductive problems. Risk of exposure via drinking water in areas of high intensity use is a major concern.



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Uses: Triazine herbicide, pre- and post-emergence to control broad-leaved weeds and grasses. Related substances: simazine. Related breakdown products: desethylatrazine, diisopropylatrazine, hydroxyatrazine.

Residues: In cord blood, neonate plasma, breast milk, urine, house dust, food, drinking water.¹⁻⁴

Acute toxicity: Categorized as “slightly toxic” for acute dermal and oral toxicity; categorized as “nontoxic” for acute eye and inhalation toxicity, by US EPA.⁵ Moderate acute oral toxicity. May cause coma, circulatory collapse, renal failure, and gastric bleeding.⁶ Reported to have caused acute poisoning of children in Nicaragua.⁷

Chronic toxicity: In areas of high use, via drinking water exposure: seasonal dietary risk exceeds US EPA’s level of concern at highest exposure levels; uncertainty around the risks of chronic and subchronic exposure to infants. Risks of concern for workers who mix, load, and apply atrazine.⁵

Neurological: Delayed puberty (neuroendocrine effect) in mammals.⁸

Cancer: Classified by US EPA as not a likely carcinogen for humans. US EPA Scientific Advisory Panel

raised questions regarding risk for ovarian, breast⁹, and other cancers, i.e., prostate¹⁰ and non-Hodgkins’ lymphoma.^{5,11}

Genotoxicity: Evidence of genotoxicity in rats.^{12,13}

Endocrine disruption: Delayed puberty, induces feminization in male vertebrates at low, environmentally relevant doses.¹⁴

Reproduction: Reduced male fertility, intrauterine growth retardation, increased risk of early spontaneous miscarriage in humans, increased incidence of birth defects associated with proximity to high levels atrazine in surface water.¹⁵⁻¹⁹

Immune: Evidence of immunosuppression in rats and carp.²⁰⁻²²

Environmental effects: *Aquatic:* moderately toxic to fish, algae, and aquatic invertebrates.⁶

Terrestrial: Moderately toxic to earthworms, honey bees, and mammals.⁶

Environmental fate: Water pollutant, banned in 2004 by the European Union due to potential to contaminate groundwater;²³ high risk leachability; moderately persistent in soil, low bioaccumulation potential.⁶

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