



Isopropanolamines Toxicology Overview

The Dow Chemical Company has long been committed to understanding the potential health hazards associated with products it produces and communicates hazards to customers, employees, and other interested parties. Consistent with these commitments, Dow continues to evaluate the available scientific data on isopropanolamines and when appropriate, funds research designed to identify and understand potential product hazards. As a result of these efforts, Dow provides up-to-date information on the safe use and handling of isopropanolamine products, based on a current understanding of sound scientific information. The following information is a summary/overview of current toxicology studies on the effects of monoisopropanolamine, diisopropanolamine and triisopropanolamine.

Monoisopropanolamine	
Acute	LD ₅₀ (oral) = 2098 mg/kg, rats. LD ₅₀ (dermal) = 1851 mg/kg, rabbits.
Skin	DOT corrosive; irritating; not a sensitizer.
Eye	Severe injury potential.
Inhalation	Prolonged, excessive exposure may cause adverse effects.
Subchronic	No systemic tox in a 10-day inhalation study; 28-day dermal study completed.
Chronic	No information available.
Mutagenicity	Additional studies in progress.
Repro/Teratogenicity	No information available.
Aquatic	Practically non-toxic to fish.

Diisopropanolamine	
Acute	LD ₅₀ (oral) = 2000-4000 mg/kg, rats. LD ₅₀ (dermal) = 8000 mg/kg, rabbits.
Skin	Irritating upon repeated exposure; not a sensitizer.
Eye	Severe irritation potential.sensitizer.
Inhalation	Prolonged, excessive exposure may cause adverse effects.
Subchronic	2-week drinking water (NOAEL = 600 mg/kg/day); at 3000 mg/kg/day, kidney effects. 28-day dermal; NOEL > 750 mg/kg/day for systemic toxicity.
Chronic	Did not cause cancer in long-term study.
Mutagenicity	Negative in vitro, not mutagenic.
Repro/Teratogenicity	No information available.
Aquatic	Practically non-toxic to fish.

Triisopropanolamine	
Acute	LD ₅₀ (oral) = 5994 mg/kg, rats. LD ₅₀ (dermal) > 5000 mg/kg, rabbits.
Skin	Irritating; not a sensitizer.
Eye	Moderate irritation, possible corneal injury.
Inhalation	Prolonged, excessive exposure may cause adverse effects.
Subchronic	2-week drinking water (NOEL = 100 mg/kg/day); kidney effects. 90-day feeding (rats NOEL > 600-700 mg/kg/day). 90-day feeding (dog NOEL > 270 mg/kg/day)
Chronic	No information available.
Mutagenicity	Not mutagenic.
Repro/Teratogenicity	No effects seen; 90-day study.
Aquatic	Practically non-toxic to fish.

For more information, complete literature, and product samples, you can reach a Dow representative at the following numbers:

United States call 1-800-447-4369

Please refer to the Material Safety Data Sheet (MSDS) for safe handling information.

Notice: No freedom from any patent owned by Seller or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

Published November 1998

