

# THE **SAFE** ZONE

**ACRYLAMIDE**  
 $\text{H}_2\text{C}=\text{CHCONH}_2$   
CAS # 79-06-1

**SYNONYMS**

acrylic amide  
2-propeneamide  
vinyl amide

**COMMON LABORATORY USES**

Polymerized to make gels for electrophoresis

**PHYSICAL PROPERTIES**

Description: Colourless crystal  
Melting point: 85° C.  
Boiling point: 125°C.  
Solubility: Very soluble in water, methanol, ethanol, acetone.  
Soluble in ethyl acetate  
Vapour pressure: 0.03 mm Hg @ 40°C.

**FLAMMABILITY**

Combustible solid - Moderate fire hazard

**ACUTE TOXICITY**

Highly toxic. Fatal exposure can result from inhalation or absorption through unbroken skin. Fully polymerized acrylamide is much less toxic.

oral LD50(rat) - 125 mg/kg dermal LD50 (rat) - 400 mg/kg

**CHRONIC TOXICITY**

Highly toxic. Over exposure causes neurotoxicity resulting in fatigue, loss of co-ordination, slurred speech, loss of lower extremity sensation, muscle weakness and paralysis in extreme cases.

“Probably carcinogenic to humans”

- International Agency for Research on Cancer

“Reasonably anticipated to be a human carcinogen”

- US National Toxicology Program

**REACTIVITY**

Polymerizes easily unless stabilized. Can polymerize violently when heated to near the melting point or when treated with base.

Reacts violently with strong oxidizers.

# THE **SAFE** ZONE CONTINUED . . .

## **FIRST AID**

**Skin contact:** Immediately remove contaminated clothing and wash thoroughly with soap and water.

**Eye contact:** Flush eyes with water for 15 minutes while holding eyelids open.

Seek medical attention if exposure is severe or if symptoms develop.

## **STORAGE**

Ensure adequate ventilation. Store tightly capped in original supplier container. Store out of sunlight, and away from ignition sources, oxidizers, acids and bases.

## **HANDLING**

Highly toxic - handle with care.

Avoid direct skin contact with solid acrylamide or with acrylamide solutions.

Avoid creating airborne dust and activities which could create aerosols. Work in a fume hood.

Wear protective gloves (\*) when working with acrylamide. Most laboratory glove materials provide adequate protection when working with the solid.

When working with acrylamide solutions, select a glove appropriate to the solvent. Wash, then remove and discard gloves at the first sign of contact with acrylamide or acrylamide solutions.

Consider using commercially prepared acrylamide gels to avoid exposure.

## **SPILL RESPONSE** Avoid skin contact with solid acrylamide or acrylamide solutions. Avoid inhaling acrylamide dust, or vapours.

Carefully sweep up spills of solids and place in sealed containers for disposal as hazardous waste.

Contain spills of solutions. Remove ignition sources if solvent is flammable.

Absorb spill on paper towels, kitty litter or similar absorbent. Place contaminated materials in sealed, wide mouth containers for disposal as hazardous waste.

Clean site of spill with soap and water.

## **DISPOSAL**

Quantities in excess of a few grams of acrylamide or a few millilitres of acrylamide solutions and all acrylamide gels should be disposed of through the Dalhousie Waste Chemical Disposal Program.

\* Wearing latex gloves places sensitive individuals at risk of developing a latex allergy.