

ACRYLAMIDE SOLUTION

AAM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Liquid	Colorless	Odorless
Acrylic acid amide (50%) Acrylic amide 50% Propenamide (50%)		Sinks and mixes with water.		
<p>AVOID CONTACT WITH LIQUID. KEEP PEOPLE AWAY. Avoid inhalation. Wear rubber overclothing (including gloves). Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>				
Fire	Not flammable.			
Exposure	CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. Harmful if inhaled. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.			
Water Pollution	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: Not listed
- 2.2 Formula: $\text{CH}_2=\text{CHCOONH}_2\cdot\text{H}_2\text{O}$
- 2.3 IMO/IUN Designation: Not listed
- 2.4 DOT ID No.: 2074
- 2.5 CAS Registry No.: 79-06-1
- 2.6 NAERG Guide No.: 153P
- 2.7 Standard Industrial Trade Classification: 51471

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Safety glasses with side shields; clean body-covering clothing; rubber gloves, boots, apron as dictated by circumstances; in absence of proper environmental control, use approved dust respirator.
- 3.2 **Symptoms Following Exposure:** Has produced central nervous system damage, which is partly reversible. Effects can be produced by oral or skin contact. Chronic acrylamide poisoning can cause midbrain disturbance and peripheral neuropathy. Contact with liquid can cause moderate irritation of eyes and skin and may cause moderate transient corneal injury.
- 3.3 **Treatment of Exposure:** INHALATION: if ill effects occur, immediately get patient to fresh air, keep him quiet and warm, and get medical help. INGESTION: if ingested, immediately give large amounts of water (or milk if immediately available), then induce vomiting and get medical help. EYES: immediately flush with plenty of water for at least 15 min. and get medical help promptly. SKIN: immediate, continuous, and thorough washing in flowing water is imperative, preferably deluge shower with abundant soap; if burns are present, get medical help; discard all contaminated clothing and wearing accessories.
- 3.4 TLV-TWA: 0.3 mg/m³
- 3.5 TLV-STEL: Not listed.
- 3.6 TLV-Ceiling: Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 3; oral rat LD₅₀ = 170 mg/kg
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Repeated exposure to small amounts may cause essentially reversible neurological effects
- 3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available
- 3.11 **Liquid or Solid Characteristics:** Currently not available
- 3.12 **Odor Threshold:** Not pertinent
- 3.13 **IDLH Value:** 60 mg/m³
- 3.14 **OSHA PEL-TWA:** 0.03 mg/m³
- 3.15 **OSHA PEL-STEL:** Not listed.
- 3.16 **OSHA PEL-Ceiling:** Not listed.
- 3.17 **EPA AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** Currently not available
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Dry chemical, foam, CO₂, water spray.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Currently not available.
- 4.5 **Special Hazards of Combustion Products:** Toxic oxides of nitrogen may form in fire.
- 4.6 **Behavior in Fire:** Sealed containers may burst as a result of polymerization.
- 4.7 **Auto Ignition Temperature:** 464°F
- 4.8 **Electrical Hazards:** II, G
- 4.9 **Burning Rate:** Not pertinent
- 4.10 **Adiabatic Flame Temperature:** Not pertinent
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent
- 4.12 **Flame Temperature:** Not pertinent
- 4.13 **Combustion Molar Ratio (Reactant Product):** Currently not available
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:** Currently not available
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** May occur at temperatures above 50°C (120°F).
- 5.6 **Inhibitor of Polymerization:** Oxygen (air) plus 50 ppm of copper as copper sulfate

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 130 ppm/96 hr/ harlequin fish/LC₅₀
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: 0
 Damage to living resources: 1
 Human Oral hazard: 2
 Human Contact hazard: II
 Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 15%-50% solution in water
- 7.2 **Storage Temperature:** Below 50°C (122°F)
- 7.3 **Inert Atmosphere:** Ventilated (natural)
- 7.4 **Venting:** Open
- 7.5 **IMO Pollution Category:** D
- 7.6 **Ship Type:** 2
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Keep Away From Food
- 8.2 **49 CFR Class:** 6.1
- 8.3 **49 CFR Package Group:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	2
Flammability (Red).....	2
Instability (Yellow).....	2
- 8.6 **EPA Reportable Quantity:** 5000
- 8.7 **EPA Pollution Category:** D
- 8.8 **RCRA Waste Number:** U007
- 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 71 (solute only)
- 9.3 **Boiling Point at 1 atm:** Currently not available (Vapor Pressure = 0.033 atm at 125°C)
- 9.4 **Freezing Point:** 183°F = 84°C = 357°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 1.05 at 25°C (liquid)
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** Not pertinent
- 9.16 **Heat of Polymerization:** Currently not available
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
68	216.000		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T