

## > MATERIAL SAFETY DATA SHEET

### 1. Product Identification

Chemical Name: Acrylamide solution

### 2. Composition/Information of Ingredients

Composition of material is trade secret.

### 3. Hazards Identification

Emergency Overview: Clear, colourless aqueous solution  
Potential Health Effects: Carcinogenic - solution is a probable human carcinogen and human neurotoxin. Another minor component has been shown to cause cancer in laboratory animals and is also neurotoxic. May be irritating to eyes, skin and respiratory tract. Exposure to formaldehyde may produce allergic respiratory effects in sensitized individuals, including asthma, coughing, wheezing, shortness of breath.

### 4. First Aid Measures

Eyes: Flush with water for at least fifteen minutes. If irritation occurs and persists, contact a medical doctor.  
Skin: Remove contaminated clothing, and shoes, and wash thoroughly with soap and water. If irritation occurs and persists, contact a medical doctor.  
Inhalation: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.  
Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.  
Notes to medical doctor: This solution is anticipated to be moderately irritating to the eyes and respiratory tract. Treatment is controlled removal of exposure with symptomatic and supportive care.

### 5. Fire Fighting Measures

Extinguishing Media: Use carbon dioxide, dry chemical powder, alcohol or polymer foam, or water spray.  
Unusual Fire/Explosion Hazard: Negligible fire hazard when exposed to heat or flame.  
Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.  
Hazardous Decomposition Products: Burning may produce carbon monoxide and/or carbon dioxide, ammonia and nitrous oxides.

### 6. Accidental Release Measures

Absorb on absorbent material and place into closed containers for later disposal. Flush area with water. Material sublimates; therefore, clean up all spills before they dry. For personal precautions, see section 8.

### 7. Handling & Storage

Store tightly closed in a cool (<25°C) dry area away from combustibles.

### 8. Exposure Controls/Personal Protection

Prevention of work exposure: Avoid all contact. There shall be access to water and eye wash fountain. Careful personal hygiene is a necessity.  
Respiratory protection: Wear NIOSH approved mask, or a mask with a gas/particle filter: A2/P2 in the absence of adequate ventilation.  
Gloves: Chemical-resistant gloves should be worn.  
Special Clothing & Equipment: Not required. Lab coat or equivalent recommended.  
Eye Protection: Wear standard safety goggles or glasses.  
Exposure Limits: None established for the formulation. Acrylamide: OSHA PEL = 0.3 mg/m<sup>3</sup> (skin) 1989; ACGIH TLV = 0.03 mg/m<sup>3</sup> (skin) 1994-95, Australia (skin) 1990. 0.30 mg/m<sup>3</sup>: Sweden (skin) 1984, United Kingdom (skin) 1991.

## 9. Physical/Chemical Properties

Appearance:	Clear or colourless aqueous solution		
Odour:	None	Specify Gravity	Not available
Melting Point:	Not applicable	% Volatile:	50-70% Water
Boiling Point:	about 100 degrees C	Vapour Density:	Not determined
Flammable Limits in Air:	Not available	Vapour Pressure:	Not determined
Explosive Properties:	Not applicable	Molecular Weight:	Not applicable
Flash Point:	Not measured	Evaporation Rate:	As water
Autoignition Temps:	Not applicable	Partition Coefficient:	No data available
Oxidising Properties:	Not applicable	Solubility (H <sub>2</sub> O):	Aqueous solution

## 10. Stability & Reactivity

Stability: Stable

Hazardous Decomposition Products: Under fire it can release toxic fumes of carbon monoxide, carbon dioxide, ammonia & nitrogen oxides.

Conditions/Materials to avoid: May undergo polymerisation if exposed to heat or (incompatibility): ultraviolet light. If polymerisation occurs in a closed container, sufficient heat and pressure may be generated to rupture the container. Avoid strong oxidisers, acids, bases and vinyl polymerisation initiators. Also avoid contamination with iron, copper, aluminium, brass and bronze.

## 11. Toxicological Information

Skin Contact: Mild to moderate irritant (rabbit) Doc.TLVs 1986, Gosselin 1984.

Skin Absorption: Dermal LD50 = 500mg/kg IARC 1986.

Inhalation: No data available for formulation.

Ingestion: Oral LD50 = 170 mg/kg (rat), RTECS 1983,

Eye Contact: Moderate to severe irritation (rabbit), Doc TLVs 1986, Gosselin 1984, RTECS 1983.

Acute Effects from overexposure: Acrylamide is toxic by the oral and dermal routes of exposure. It is readily absorbed through the skin and by inhalation. Acrylamide is a human neurotoxin causing damage to both the central and peripheral nervous system. Symptoms include muscular weakness (particularly in the lower limbs), ataxia, tremors, numbness and tingling. Neurotoxicity produced by dermal exposure may be preceded by peeling and redness of the skin on the hands and feet. Mild cases of poisoning appear to be reversible with time if exposure is terminated. Other adverse effects may include irritation to skin eyes and respiratory tract. Contact dermatitis has been reported with acrylamide.

Chronic Effects from Overexposure: Testicular degeneration as well as reduced sperm motility, impaired fertility and dominant lethal effects with sub-chronic exposure to acrylamide have been reported in laboratory animals. Impairment of visual function was observed in female monkeys treated with acrylamide (10mg/kg bw). Acrylamide is classified as a suspect or probable human carcinogen by ACGIH, IARC and EPA. Acrylamide has produced chromosome damage as well as mutations in several in vitro and in vivo tests. Another component has also shown clear evidence of carcinogenicity in experimental animals in a 2 year NTP gavage study.

Exotoxicity: No data available for the formulation.

Carcinogenicity	IARC	NTP	Other (OSHA)	ACGIH
Yes, acrylamide	Yes	Yes	No	Yes

## 12. Ecological Information

Environmental Fate: No data available

Environmental Effect: No data available

## 13. Disposal Considerations

Dispose in accordance with applicable local, state/provincial, and federal/national regulations.

## 14. Transportation Information

ADR/RID

Proper shipping name: Acrylamide

Class; 6.1

UN Number; 2074

Packing group; 111  
Transport Label Required; toxic

IMO  
Proper shipping name: Acrylamide, solid  
Hazard class; 6.1  
UN Number; 2074  
Packing group; 111  
Transport Label Required; toxic

ICAO/IATA  
Proper shipping name: Acrylamide  
Class; 6.1  
UN Number; 2074  
Packing group; 111  
Transport Label Required; toxic  
Packing instructions/Maximum Net Quantity Per Package;  
Passenger aircraft; 619; 100KG  
Cargo aircraft; 619; 200KG

## 15. Regulatory Information

U.S. TSCA Inventory: Formulation is not listed. Acrylamide is listed.  
U.S. ARA Title III: Not listed. *Section 311/312*: Not listed *Section 313* (40 CFR 372): Not listed.  
California Proposition 65: **WARNING**: This product contains chemicals known to the State of California to cause cancer.  
Canada WHMIS: 2A, D. (Very toxic material, carcinogen).  
EINECS No: (Acrylamide-201-173-7; Formaldehyde-200-001-8)  
EC Symbols: T (Toxic)  
EC Risk Phrases:  
R45 May cause cancer  
R 46 May cause heritable genetic damage  
R 24/25 Also toxic in contact with skin and if swallowed  
R 48/23/24/25 Also toxic; danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.  
R 36 Irritating to eyes  
R 37 Irritating to respiratory system  
R 38 Irritating to skin  
  
EC Safety Advice Phrases:  
S 53 Avoid exposure - obtain special instructions before use  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
Caution - this preparation contains substance(s) not yet fully tested.

## 16. Other Information

NFPA Designation	Degree of Hazard Code	
Fire	1	4 = Extreme
Health	2	3 = High
Reactivity	1	2 = Moderate
Special Hazard	None	0 = Insignificant