

# MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

## 1. Chemical Product and Company Identification

**Product Name:** ProtoGel 40%

**Product Number:** EC-891

### Chemical Names/

#### Description:

Aqueous solution of acrylamides.

### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30336

### Telephone Numbers

(800) 526-3867  
(404) 699-2121

### Emergency Numbers

#### Chemtrec

**(800) 424-9300 (U.S. & Canada)**  
**01-703-527-3887 (outside U.S. & Canada)**

## 2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
ACRYLAMIDE		79-06-1	201-173-7	0.03 mg/m <sup>3</sup> (TWA) (skin) for solid
BIS-ACRYLAMIDE		110-26-9	203-750-9	5 mg/m <sup>3</sup> (TWA) (skin) for solid

## EEC LABEL SYMBOL AND CLASSIFICATION



TOXIC

**R: 45-46-24/25-48/**

**May cause cancer. May cause heritable genetic damage. Also toxic in contact with skin and if swallowed. Danger of serious damage to health by prolonged exposure through inhalation, in contact with skin or if swallowed.**

**S: 53-45**

**Avoid exposure, obtain special instructions before use. In case of accident or if you feel ill, seek medical advice immediately (show the label where possible).**

### 3. Hazards Identification

#### **Appearance and Odor**

Clear, colorless solution.

#### **EMERGENCY OVERVIEW - IMMEDIATE HAZARD**

WARNING! HARMFUL IF SWALLOWED. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE EYE IRRITATION. POLYMERIZATION MAY OCCUR FROM EXCESSIVE HEAT OR CONTAMINATION.

#### **EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:**

CHRONIC TOXICITY HAZARD. ACRYLAMIDE MAY CAUSE NERVOUS SYSTEM DAMAGE. ACRYLAMIDE CAUSED CANCER AND MALE REPRODUCTIVE DISORDERS IN LABORATORY ANIMAL TESTS. RISK DEPENDS ON DURATION AND LEVEL OF EXPOSURE.

#### **Potential Health Effects**

##### **Inhalation**

Inhalation of mist causes irritation to the respiratory tract. Symptoms may parallel ingestion.

##### **Ingestion**

Toxic! May cause systemic poisoning. May cause drowsiness, tingling sensations, fatigue, weakness, stumbling, slurred speech, and shaking. May cause central and peripheral nervous system damage. Severe intoxication may cause permanent nerve damage. May affect reproductive system and act as a teratogen.

##### **Skin**

May cause irritation and redness. Can be absorbed through the skin causing systemic poisoning; symptoms may parallel ingestion.

##### **Eyes**

Acrylamide solutions may cause eye irritation.

#### **Signs and Symptoms of Overexposure**

##### **Inhalation**

Contact with this material by inhalation of mist may cause nervous system effects. See ingestion effects for more details.

##### **Ingestion**

Contact with this material by any route (eyes/skin, inhalation or ingestion) may cause nervous system effects (neurotoxicity). These effects can result from a single overexposure but are more likely to occur after repeated exposures to small amounts over a period of several days or weeks. Signs and symptoms of toxic effects include increased sweating of the hands and feet, numbness, tingling and weakness in the extremities, unsteady gait and decreased reflexes

##### **Skin**

Acrylamide is readily absorbed through unbroken skin. If the exposure route is dermal, the signs and symptoms described above under 'Signs and Symptoms of Overexposure - Ingestion' may be preceded by peeling and redness of skin at the areas of exposure, normally the hands and feet.

##### **Eyes**

Contact with this material by eyes may cause nervous system effects. See 'Signs and Symptoms of Overexposure - Ingestion' above for more details.

#### **Carcinogenicity**

Acrylamide is suspected as a cancer hazard. May cause cancer. Listed by NTP as a suspected carcinogen. Acrylamide is known to the State of California to cause cancer.

#### **Mutagenicity**

Acrylamide was negative in the Ames assay both with and without metabolic activation.

#### **Reproductive Toxicity**

Acrylamide induced male reproductive toxicity has been demonstrated in Long-Evans rats where given greater than or equal to 15 mg/kg/day acrylamide orally by gavage for five consecutive days. In this study, males receiving greater than or equal to 15 mg/kg/day acrylamide had a reduced fertility index.

### **Teratogenic Effects**

Not Available.

### **Routes of Entry**

Contact with this material by any route of exposure (eye/skin, inhalation or ingestion) may cause serious adverse health consequences.

### **Target Organ Statement**

Not Available.

## **4. First Aid Measures**

### **Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### **Ingestion**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

### **Skin**

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

### **Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **5. Fire Fighting Measures**

Flash Point	N.A.	Flammable Limits	N.A.
Flash Point Method	N.A.	Autoignition temperature	N.A.

### **Extinguishing media**

Use media appropriate to the primary cause of fire.

### **Protective Equipment**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### **Hazardous Combustion Products**

Thermal decomposition products may include carbon monoxide, carbon dioxide, and hydrocarbons.

### **Unusual Fire and Explosion Hazards**

N.A.

NFPA Codes: Health 2 Flammability 1 Reactivity 1

## **6. Accidental Release Measures**

### **Steps to be taken in case material is released or spilled**

Contain and clean up spill immediately, prevent from entering floor drains. Contain liquids using

absorbents. Shovel all spill materials into disposal drum. Scrub spill area with detergent, flush with copious amounts of water.

### **Waste Disposal Method**

Disposal must be made in accordance with applicable federal, state, and local regulations.

### **Personal Precautions**

If water solvent has evaporated, wear NIOSH approved air-purifying respirator.

## **7. Handling and Storage**

### **Handling**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

Wear special protective equipment (Sec. 8) where exposures may exceed established levels.

### **Storage**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area. Protect from physical damage. Isolate from incompatible materials (section 10).

### **Storage Temperature**

(20 C)

### **Disposal**

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

## **8. Exposure Controls/Personal Protection**

### **Airborne Exposure Limits**

Component: ACRYLAMIDE

ACGIH Threshold Limit Value (TLV): 0.03 mg/m<sup>3</sup> (TWA) (skin) for solid

OSHA Permissible Exposure Limit (PEL): 0.3 mg/m<sup>3</sup> (TWA) (skin) for solid

### **Engineering Controls**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### **Respiratory Protection**

If exposure limits are exceeded, wear a full-face respirator with organic vapor cartridge and high efficiency dust mist filter. Beyond fifty times exposure limits or when exposure levels are not known, wear a full-face piece positive pressure respirator.

### **Eye Protection**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

### **Skin Protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Other Control Measures**

Weekly examinations for skin peeling of hands and fingers. Comments: Stress good personal cleanliness and housekeeping to prevent skin contact. Wear clean work clothing daily. Do not home launder.

## 9. Physical Properties

<b>Boiling point</b>	220 F	<b>Evaporation Rate</b>	1.0
<b>Melting point</b>	N.A.	<b>Solubility in water</b>	Soluble
<b>Vapor pressure (mmHg)</b>	Water	<b>pH</b>	Neutral
<b>Vapor density (Air = 1)</b>	N.A.	<b>Specific gravity (H<sub>2</sub>O = 1)</b>	1.07
<b>% volatile by volume</b>	60		

## 10. Stability and Reactivity

### Stability

Stable under ordinary conditions of use and storage.

### Conditions to Avoid

Heat, shock, UV light, and incompatibles.

### Hazardous Decomposition Products

Upon heating, may produce carbon dioxide, carbon monoxide, and hydrogen.

### Hazardous Polymerization

May occur

### Incompatibles

ACRYLAMIDE:

Acrylamide reacts with acids, oxidizing agents, and bases. Spontaneously reacts with hydroxyl-, amino-, and sulfhydryl- containing compounds. Avoid vinyl polymerization initiators or contamination with aluminum, iron, copper, brass, and bronze.

BIS-ACRYLAMIDE:

Strong bases, strong acids, and oxidizing agents.

## 11. Toxicological Information

### Product LD50 Values

ProtoGel 40%	Oral Rat LD50 (mg/kg):	200-800
ProtoGel 40%	Dermal Rabbit LD50 (mg/kg):	2185

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
ACRYLAMIDE	No	Yes	2A
BIS-ACRYLAMIDE	No	No	None

## 12. Ecological Information

### **ACRYLAMIDE**

When pure acrylamide is released into the soil, this material may biodegrade to a moderate extent.

When released into the soil, this material is expected to leach into groundwater. This material is not expected to significantly bioaccumulate. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.

### **BIS-ACRYLAMIDE**

No information found.

## 13. Disposal Considerations

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

## 14. Transport Information

### **D.O.T.**

Proper Shipping Name: Acrylamide Solution

Hazard Class: 6.1

UN Number: 3426

Packing Group: III

### **I.A.T.A.**

Proper Shipping Name: Acrylamide Solution

Hazard Class: 6.1

UN Number: 3426

Packing Group: III

### **I.M.O.**

Proper Shipping Name: Acrylamide Solution

Hazard Class: 6.1

UN Number: 3426

Packing Group: III

## 15. Regulatory Information

### **United States**

#### **TSCA Regulatory Statement**

All intentional ingredients are listed on the TSCA Inventory.

#### **SARA 311/312 Hazard Categories**

Component	Fire	Pressure	Reactivity	Acute	Chronic
ACRYLAMIDE	No	No	No	Yes	Yes
BIS-ACRYLAMIDE	No	No	No	Yes	Yes

### **Europe**

#### **EEC Regulatory**

All intentional ingredients are listed on the European EINECS Inventory.

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#### 16. Other Information

**NFPA Codes:    Health 2    Flammability 1    Reactivity 1**

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