

MATERIAL SAFETY DATA SHEET

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

1. Chemical Product and Company Identification

Product Name: ProtoGel 30%

Product Number: EC-890

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	30	79-06-1	201-173-7	0.03 mg/m ³ (TWA) (skin) for solid
BIS-ACRYLAMIDE	0.8	110-26-9	203-750-9	5 mg/m ³ (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 toxic oxides of nitrogen and carbon.

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/m³ (TWA) (skin) for solid

OSHA Permissible Exposure Limit (PEL): 0.3 mg/m³ (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

Boiling point	220 F	Evaporation rate	1.0
Melting point	N.A.	Solubility in water	Soluble
Vapor pressure (mmHg)	Water	pH	Neutral
Vapor density (Air = 1)	N.A.	Specific gravity (H₂O = 1)	1.07
% volatile by volume	69.2		

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 ammonia, nitrogen oxides, cyanuric acid, cyanic acid, biuret, 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 30%	Oral Rat LD50 (mg/kg):	330-1330
ProtoGel 30%	Dermal Rabbit LD50 (mg/kg):	2913

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: Not Regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

I.A.T.A.

Proper Shipping Name: Not Regulated

Hazard Class: N.A.
UN Number: N.A.
Packing Group: N.A.

I.M.O.

Proper Shipping Name: Not Regulated
Hazard Class: N.A.
UN Number: N.A.
Packing Group: N.A.

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

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.