

SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: ProtoGel 40%

Product Number: EC-891

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer

National Diagnostics
305 Patton Drive
Atlanta, GA 30036
(404) 699-2121
(800) 526-3867
info@nationaldiagnostics.com

1.4 Emergency Telephone Number

ChemTel Inc.

Contract number MIS8894340
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)
01-800-099-0731 (Mexico)
400-120-0751 (China)
000-800-100-4086 (India)
1-300-954-583 (Australia)
0-800-591-6042 (Brazil)
+1-813-255-3924 (All other regions)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H301 - Acute Toxicity-Oral (Category 3)
H312 - Acute Toxicity-Dermal (Category 4)
H315 - Skin Corrosion/Irritation (Category 2)
H317 - Skin Sensitizer (Category 1)
H319 - Serious Eye Damage/Eye Irritation (Category 2A)
H332 - Acute Toxicity-Inhalation (Category 4)
H340 - Germ Cell Mutagenicity (Category 1B)
H350 - Carcinogenicity (Category 1B)
H361 - Toxic to Reproduction (Category 2)
H372 - Specific Target Organ Toxicity Following Repeated Exposure (Category 1)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements



DANGER

H301 - Toxic if swallowed
H312 - Harmful in contact with skin.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.
P201 - Obtain special instructions before use.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician .
P308+P360 - IF ON CLOTHING: Rinse immediately contaminated CLOTHING and SKIN with plenty of water before removing clothes.
P308+P313 - IF exposed or concerned: Call a POISON CENTER or doctor/physician.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description

Aqueous solution of acrylamides.

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
ACRYLAMIDE	< 40	79-06-1	201-173-7	H301, H312, H315, H317, H319, H332, H340, H350, H361, H372

SECTION 4 - FIRST AID MEASURES

4.1 Description of 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.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

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.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use media appropriate to the primary cause of fire.

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products

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

Hazardous Decomposition Products

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

Hazardous Polymerization

May occur

5.3 Advice for Firefighters

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.

5.4 Further Information

No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

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

6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

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.

6.4 References to Other Sections

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for Safe 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.

7.2 Conditions for Safe Storage (including any incompatibles)

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

Incompatibles

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.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

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

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne 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.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless solution	b. Odor	None
c. Odor Threshold	N.A.	d. pH	Neutral
e. Melting/Freezing Point (°C)	-4	f. Boiling point (°C)	102
g. Flash Point (°C)	N.A.	h. Evaporation Rate	1.0
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	Water	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	1.07	n. Water Solubility	Soluble
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	No data available.
s. Explosive Properties	polymerizes exothermically	t. Oxidizing Properties	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

HAZARDOUS POLYMERIZATION: Material may be subject to violent polymerization in absence of oxygen, exposure to heat, light or pressure, or in presence of acids, bases, oxidizing materials, initiators, or reducing agents.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage.

10.3 Possibility of Hazardous Reactions

May occur

10.4 Conditions to Avoid

Heat, shock, UV light, and incompatibles.

10.5 Incompatible Materials

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.

10.6 Hazardous Decomposition Products

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

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

200-800

Dermal Rabbit LD50 (mg/kg)

2185

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
ACRYLAMIDE	No	Yes	2A

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.

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.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	96 hr LC50: 180ppm (Rainbow Trout)	48-hour EC50: 98 mg/l (Daphnea)	ICA50 (growth inhibition): 67.7 mg/l (Selenastrum capricornutum)	No data
	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

12.2 Persistence and Degradability

Readily biodegradable: The test material was found to degrade approximately 100% in 28 days in the OECD Closed Bottle Test (301D).

12.3 Bioaccumulative Potential

No data

12.4 Mobility in Soil

No data

12.5 Results of PBT and vPvB Assessment

Not PBT or vPvB

12.6 Other Adverse Effects

No data

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	3426	3426	3426	3426
14.2 Shipping Name	Acrylamide Solution	Acrylamide Solution	Acrylamide Solution	Acrylamide Solution
14.3 Hazard Class	6.1	6.1	6.1	6.1
14.4 Packing Group	III	III	III	III
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

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

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.2

7/18/2013 - Released Version 1.0

NFPA Codes

Health 2 Flammability 1 Reactivity 1

Dangers

ACRYLAMIDE

H302 - Harmful if swallowed.

H312 - Harmful in contact with skin.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.

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