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 30% **Product Number:** EC-890

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	**Agent**
National Diagnostics	AGTC Bioproducts
305 Patton Drive	Unit 4 Fleet Business Park
Atlanta, GA 30036	Itlings Lane, Hessle
(404) 699-2121	East Riding of Yorkshire HU139LX
(800) 526-3867	44(0) 1482 646020
info@nationaldiagnostics.com	office@agtcbioproducts.com

1.4 Emergency Telephone Number

Chemtrec
1-800 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

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

H302 - Acute Toxicity-Oral (Category 4)
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
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.
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	30	79-06-1	201-173-7	H301, H312, H315, H317, H319, H332, H340, H350, H361, H372
BIS-ACRYLAMIDE	0.8	110-26-9	203-750-9	H302, H332

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

ACRYLAMIDE:

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

BIS-ACRYLAMIDE:

Drowsiness, tingling sensations, fatigue, weakness, stumbling, slurred speech, and shaking.

Ingestion

ACRYLAMIDE:

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 extremeties, unsteady gait and decreased reflexes

BIS-ACRYLAMIDE:

Drowsiness, tingling sensations, fatigue, weakness, stumbling, slurred speech, and shaking.

Skin

ACRYLAMIDE:

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.

BIS-ACRYLAMIDE:

Pain and redness. Symptoms of absorption of solutions through the skin may parallel ingestion.

Eyes

ACRYLAMIDE:

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

BIS-ACRYLAMIDE:

Pain and redness.

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 toxic oxides of nitrogen and carbon.

Hazardous Decomposition Products

Upon heating, may produce ammonia, nitrogen oxides, cyanuric acid, cyanic acid, biuret, carbon dioxide, carbon monoxide, and hydrogen.

Hazardous Polymeriation

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:

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.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: ACRYLAMIDE

ACGIH Threshold Limit Value (TLV): 0.03 mg/m3 (TWA) (skin) for solid
OSHA Permissable Exposure Limit (PEL): 0.3 mg/m3 (TWA) (skin) for solid

Component: BIS-ACRYLAMIDE
ACGIH Threshold Limit Value (TLV): 5 mg/m3 (TWA) (skin) for solid
OSHA Permissable Exposure Limit (PEL): None established

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 (^{o}C)	-4	**f. Boiling point (^{o}C)**	102
g. Flash Point (^{o}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 (^{o}C)**	N.A.
q. Decomposition Temperature (^{o}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:
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.

10.6 Hazardous Decomposition Products

Upon heating, may produce ammonia, nitrogen oxides, cyanuric acid, cyanic acid, biuret, carbon dioxide, carbon monoxide, and hydrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

330-1330

Dermal Rabbit LD50 (mg/kg)

2913

Component Cancer List Status

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

Potential Health Effects

Inhalation

ACRYLAMIDE

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

BIS-ACRYLAMIDE

Inhalation of mist may cause drowsiness, tingling sensations, fatigue, weakness, stumbling, slurred speech, and shaking. Inhalation studies with this compound have produced acute pulmonary edema in animals. Effects in humans not known.

Ingestion

ACRYLAMIDE

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.

BIS-ACRYLAMIDE

Toxic! Unsaturated amides cause systemic poisoning.

Skin

ACRYLAMIDE

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

BIS-ACRYLAMIDE

Unsaturated amides cause irritation and redness. Solutions may be absorbed through the skin causing systemic poisoning.

Eyes

ACRYLAMIDE

Acrylamide solutions may cause eye irritation.

BIS-ACRYLAMIDE

Contact with the eyes causes irritation.

Carcinogenicity

ACRYLAMIDE

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.

BIS-ACRYLAMIDE

Not listed as a known or anticipated carcinogen by NTP or IARC.

Mutagenicity

ACRYLAMIDE

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

BIS-ACRYLAMIDE

No information available.

Reproductive Toxicity

ACRYLAMIDE

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.

BIS-ACRYLAMIDE
No information available.

Teratogenic Effects
ACRYLAMIDE
Not Available.

BIS-ACRYLAMIDE
No information available.

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

BIS-ACRYLAMIDE
Ingestion, inhalation, skin contact.

Target Organ Statement
ACRYLAMIDE
Not Available.

BIS-ACRYLAMIDE
Persons with pre-existing skin disorders, eye problems, or central or peripheral nervous system conditions may be more susceptible to the effects of this substance.

SECTION 12 - ECOLOGICAL INFOMATION
12.1 Toxicity
COMPONENT: ACRYLAMIDE

	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
Terrestial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: BIS-ACRYLAMIDE

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	Birds	Arthropods	Plants	Microorganisms
Terrestial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

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

BIS-ACRYLAMIDE
No data

12.3 Bioaccumulative Potential
ACRYLAMIDE
No data

BIS-ACRYLAMIDE
No data

12.4 Mobility in Soil

ACRYLAMIDE
No data

BIS-ACRYLAMIDE
No data

12.5 Results of PBT and vPvB Assessment
ACRYLAMIDE
Not PBT or vPvB

BIS-ACRYLAMIDE
No data

12.6 Other Adverse Effects
ACRYLAMIDE
No data

BIS-ACRYLAMIDE
None

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	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not Regulated	Not Regulated	Not Regulated	Not Regulated
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
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
BIS-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
5/29/2015 - Updated Sections 2.1 and 3.2
1/28/2015 - Updated Sections 2.1 and 2.2
7/16/2013 - 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.

BIS-ACRYLAMIDE
H302 - Harmful if swallowed
H332 - Harmful if inhaled

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