Date revised: 10/16/2009

MATERIAL SAFETY DATA SHEET

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

1. Chemical Product and Company Identification

Product Name: UreaGel-8 **Product Number:** EC-838

Chemical Names/ Description: Aqueous solution of acrylamides and urea.

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	~ 8	79-06-1	201-173-7	0.03 mg/m3 (TWA) (skin) for solid
Urea		57-13-6	200-315-5	10 mg/m3, 8-hour TWA
BIS-ACRYLAMIDE		110-26-9	203-750-9	5 mg/m3 (TWA) (skin) for solid

EEC LABEL SYMBOL AND CLASSIFICATION

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 extremeties, 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 Toxicitiy

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 ap

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 Permissable 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 emiss

Respiratory Protection

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-fac

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 protective gloves and clean body covering clothing.

Other Control Measures

N.A.

9. Physical Properties

Boiling point	220 F	**Evaporation Rate**	1.0
Melting point	N.A.	**Solubity in water**	Soluble
Vapor pressure (mmHg)	Water	**pH**	Neutral
Vapor density (Air = 1)	N.A.	**Specific gravity (H2O = 1)**	1.13
% volatile by volume	40		

10. Stability and Reactivity

Stability

Stable under ordinary conditions of use and storage.

Conditions to Avoid

Heat, incompatibles.

Hazardous Decomposition Products

Urea decomposes upon heating and can form products including ammonia, oxides of nitrogen, cyanuric acid, cyanic acid, biuret, and carbon dioxide.

Hazardous Polymerization

Will not 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.

Urea:

Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. It is incompatible with sodium nitrite, gallium perchlorate, strong oxidizing agents (permanganate, dichromate, nitrate, chlorine), phosphorus penta

BIS-ACRYLAMIDE:

Strong bases, strong acids, and oxidizing agents.

11. Toxicological Information

Product LD50 Values

UreaGel-8	Oral Rat LD50 (mg/kg):	2940
UreaGel-8	Dermal Rabbit LD50 (mg/kg):	2520

Component Cancer List Status

	NTP Carcinogen		
	Known	Anticipated	IARC Category
ACRYLAMIDE	No	Yes	2A
Urea	No	No	None
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. For pure acrylamide, the material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

Urea

When urea is released to soil, this material will hydrolyze into ammonium in a matter of days to several weeks. When released into the soil, this material may leach into groundwater. When released into water, this material may biodegrade to a moderate extent. When released into water, this material is not expected to evaporate significantly. This material has an experimentally determined bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

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

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
ACRYLAMIDE	No	No	No	Yes	Yes
Urea	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.

EEC LABEL SYMBOL AND CLASSIFICATION

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S: 53-45
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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.