

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: UreaGel Loading Buffer

Product Number: EC-857

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]

H351 - Carcinogenicity (Category 2)
H360 - Toxic to Reproduction (Category 1B)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements



DANGER

H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces---no smoking.
P263 - Avoid contact during pregnancy/while nursing.
P281 - Use personal protective equipment as required.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
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

Denaturing loading buffer containing formamide, EDTA and other components.

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Formamide	95	75-12-7	200-842-0	H351, H360
Ethylenediaminetetraacetic acid, disodium salt dihydrate	< 1	6381-92-6	205-358-3	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

DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

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

Formamide:

Symptoms may include coughing, shortness of breath. Excessive inhalation of vapor may cause symptoms that parallel ingestion, ranging from headache to unconsciousness, depending upon the duration and level of the exposure.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Symptoms may include coughing and shortness of breath.

Ingestion

Formamide:

May cause headache, dizziness, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Symptoms may include irritation and reddening to the mucous membranes of the mouth, esophagus, and gastrointestinal tract.

Skin

Formamide:

Symptoms include redness, itching, and pain. May be absorbed through the skin with symptoms parallel to ingestion.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Symptoms may include irritation with redness and pain.

Eyes

Formamide:

Redness and pain.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Symptoms may include irritation, redness, pain, and corneal damage.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide. Water or foam may cause frothing.

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products

Highly toxic gases may be involved in fires of this product.

Hazardous Decomposition Products

Burning may produce ammonia, carbon monoxide, carbon dioxide, nitrogen oxides. At boiling point: ammonia, carbon monoxide, and hydrogen cyanide.

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

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

Wear appropriate protective equipment as specified in Section 8.

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

Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

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 frozen until ready for use.

Incompatibles

Formamide:

Acids, alkalines, iodine, pyridine, and sulfur trioxide. Copper, brass, lead, and rubber are attacked by formamide.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Strong oxidizing agents, strong bases, aluminum, copper, copper alloys, nickel.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Formamide

ACGIH Threshold Limit Value (TLV): 10 ppm TWA

OSHA Permissible Exposure Limit (PEL): None established

Component: Ethylenediaminetetraacetic acid, disodium salt dihydrate

ACGIH Threshold Limit Value (TLV): None Established

OSHA Permissible 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 the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

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	Blue solution	b. Odor	None
c. Odor Threshold	N.A.	d. pH	Neutral
e. Melting/Freezing Point (°C)	2-3	f. Boiling point (°C)	210
g. Flash Point (°C)	154	h. Evaporation Rate	< 1 (BuAc = 1)
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	No Data
k. Vapor Pressure	1 @ 71C	l. Vapor Density (Air = 1)	1.55 (air = 1)
m. Relative Density	1.13 @20C	n. Water Solubility	Infinitely soluble
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	No Data

q. Decomposition Temperature (°C) N.A.

r. Viscosity

s. Explosive Properties N.A.

t. Oxidizing Properties no oxidizing properties

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions. Conditions to avoid: High temperatures. Materials to avoid: Oxidizing agents, Acids, Bases, iodine, pyridine, sulphur trioxide Corrodes metals: Aluminium, Iron, Copper, Corrodes natural rubber. Explosion and fire risk with particular chemicals: strong oxidizers, acids, bases Hazardous decomposition products: Carbon monoxide (CO), Hydrogen cyanide (hydrocyanic acid), Ammonia, nitrogen oxides (NOx)

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Absorbs moisture from the air.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Heat, flames, ignition sources, and incompatibles.

10.5 Incompatible Materials

Formamide:

Acids, alkalines, iodine, pyridine, and sulfur trioxide. Copper, brass, lead, and rubber are attacked by formamide.

Ethylenediaminetetraacetic acid, disodium salt dihydrate:

Strong oxidizing agents, strong bases, aluminum, copper, copper alloys, nickel.

10.6 Hazardous Decomposition Products

Burning may produce ammonia, carbon monoxide, carbon dioxide, nitrogen oxides. At boiling point: ammonia, carbon monoxide, and hydrogen cyanide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

5570

Dermal Rabbit LD50 (mg/kg)

No Data

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Formamide	No	No	None
Ethylenediaminetetraacetic acid, disodium salt dihydrate	No	No	None

Potential Health Effects

Inhalation

Formamide

Causes irritation to the respiratory tract.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Causes irritation of the mucous membrane and upper respiratory tract.

Ingestion

Formamide

Causes irritation to the gastrointestinal tract. Affects the central nervous system. May affect the reproductive system.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Exposure may cause kidney injury, muscle cramps, bone-marrow depression, and a generalized allergic reaction.

Skin

Formamide

Causes irritation to the skin. May be absorbed through the skin.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Causes skin irritation. Causes redness and pain.

Eyes

Formamide

Causes irritation to the eyes.

Ethylenediaminetetraacetic acid, disodium salt dihydrate
Causes eye irritation. Causes redness and pain.

Carcinogenicity

Formamide

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

Ethylenediaminetetraacetic acid, disodium salt dihydrate

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

Mutagenicity

Formamide

No information found.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Cytogenetic Analysis: intraperitoneal - mouse 50mmol/L. DNA Inhibition: hamster fibroblast 500ug/L, rabbit kidney 250 umol/L.

Reproductive Toxicity

Formamide

May cause congenital malformation of the fetus.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Fertility: Post-implantation mortality, oral - rat TDLo = 7632 mg/kg.

Teratogenic Effects

Formamide

May cause congenital malformation of the fetus.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Embryo or Fetus: Stunted fetus, oral - rat TDLo = 7632 mg/kg. Specific developmental abnormalities: cardiovascular, craniofacial, musculoskeletal, respiratory, and urogenital, oral - rat TDLo = 7632 mg/kg.

Routes of Entry

Formamide

Ingestion, inhalation, and absorption through the skin.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Inhalation, ingestion or skin contact.

Target Organ Statement

Formamide

No information found.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

No information available

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

COMPONENT: Formamide

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	6569 @ 96 hrs	>500 @ 48 hrs	>500 @ 96 hrs	>1000 @ 30min

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	no data	no data	no data	no data

COMPONENT: Ethylenediaminetetraacetic acid, disodium salt dihydrate

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, Lepomis macrochirus):41mg/L	EC50 (485hr daphnia) 140mg/L	EC 50 (72hrs)>100mg/L	EC50>500mg/L

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	LOEC (Nicotiana tabacum) 420mg/L	No data

12.2 Persistence and Degradability

Formamide

Readily biodegradable (99% degradation at 28 days)

Ethylenediaminetetraacetic acid, disodium salt dihydrate

Biodegradable (55% degradation in 20 days)

12.3 Bioaccumulative Potential

Formamide

low expected bioaccumulation log BCF 0.5

Ethylenediaminetetraacetic acid, disodium salt dihydrate

BCF 1.1-1.8

12.4 Mobility in Soil

Formamide

log Koc: 0.93

Ethylenediaminetetraacetic acid, disodium salt dihydrate

No data

12.5 Results of PBT and vPvB Assessment

Formamide

No Data

Ethylenediaminetetraacetic acid, disodium salt dihydrate

No data

12.6 Other Adverse Effects

Formamide

No data

Ethylenediaminetetraacetic acid, disodium salt dihydrate

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	N.A.	N.A.	N.A.	N.A.
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

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Formamide	No	No	No	Yes	Yes
Ethylenediaminetetraacetic acid, disodium salt dihydrate	No	No	No	Yes	No

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

6/27/2013- Released Version 1.0

NFPA Codes

Health 2 Flammability 1 Reactivity 0

Dangers

Formamide

H351 - Suspected of causing cancer.

H360 - May damage fertility or the unborn child.

Ethylenediaminetetraacetic acid, disodium salt dihydrate

H332 - Harmful if inhaled.

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.