



New England Biolabs  
240 County Road  
Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

EMERGENCY TELEPHONE NO.	1-800-632-5227
OTHER INFORMATION CALLS	1-978-927-5054
FAX	1-978-921-1350
INTERNET e-mail:	info@neb.com
REVISION DATE	1/06

**GLuc**  
**Substrate**  
**#E3300**

### SECTION 1 –PRODUCT INFORMATION

**Product Name:** GLuc Substrate

### SECTION 2–CHEMICAL INFORMATION

1. ETHANOL	80–100%	Cas.	#64-17-5
2. HYDROCHLORIC ACID	< 1%	Cas.	#7647-01-0

### SECTION 3–COMPOSITION/INFORMATION ON INGREDIENT

**CHEMICAL NAME:** ETHANOL

**Information pertaining to particular dangers for man and environment**

R 11 Highly flammable.

R 36 Irritating to eyes

**Classification system:**

The classification is made according OSHA CFR29 1910.1200, European Community Directives (including latest editions of international substance lists) and is expanded upon by technical literature/supplier company information.

**National Fire Protection Association (NFPA ratings scale 0-4)**

Health = 0

Fire = 3

Reactivity = 0

**Hazardous Material Identification System (HMIS Ratings scale 0-4)**

Health = 0

Flammability = 3

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200)**

Irritant

Flammable

**Primary route(s) of entry:**

Dermal

Inhalation

Oral

**Target Organ(s):**

May cause Liver damage (Hepatotoxin)

May affect Nervous system (Neurotoxin)

**Additional information:** Keep away from source of ignition.

### SECTION 4 –FIRST AID MEASURES

**ORAL EXPOSURE:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**INHALATION EXPOSURE:** If inhaled, remove to fresh air. If breathing is difficult, call a physician.

**DERMAL EXPOSURE:** In case of contact, immediately wash skin with soap and copious amounts of water. Remove clothing and call a physician.

**EYE EXPOSURE:** In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

---

## SECTION 5–FIRE FIGHTING MEASURES

---

**Extinguishing Media:** Water Spray  
Carbon Dioxide, dry chemical powder or appropriate foam

**Special Firefighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Use water spray to cool-exposed containers.

**Unusual Fire and Explosions Hazard (s):**  
**Flammable Liquid**

Vapor may travel considerable distance to source of ignition and flash back.  
Container may explode under fire conditions.

---

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

---

**EVACUATE AREA:**

**PROCEDURE(S) OF PERSONAL PRECAUTION(S):**

Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and heavy rubber gloves.

Wear disposable coveralls and discard them after use.

**METHODS FOR CLEANING UP:**

Cover with dry-lime, sand or soda ash. Place in covered containers using non-sparking tools and transport outdoors.

Ventilate area and wash spill site after material pickup is complete. Evacuate area. Shut off all sources of ignition.

---

## SECTION 7 – HANDLING AND STORAGE

---

**Handling**

**Information for safe handling:** No special precautions are necessary if used correctly.

**Information about protection against explosion and fires:**

Keep ignition sources away-Do not smoke.

Protect against electrostatic charges.

**Special Requirements**

Hygroscopic

**Storage**

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptables.

---

## SECTION 8–EXPOSURE CONTROLS /PPE

---

**Engineering Controls:** Safety shower and eye bath. Mechanical exhaust required.

**Avoid Breathing Vapor**

**Personal Protective Equipment:**

**Eye:**

Compatible safety goggles.

**Respiratory**

NIOSH/MSHA-approved respirator.

**Keep away from heat, sparks and open flame**

**Hand:**

Compatible chemical-resistant gloves.

**Keep Tightly Closed**

**Store in a cool dry place.**

---

## SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

---

**Form:** Fluid  
**Color:** Colorless  
**Odor:** Alcohol-like

**Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Undetermined.

**Flash point:** < 21°C (< 70°F)

**Ignition temperature:** 400.0°C (752°F)

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**Explosion limits:**

**Lower:** 0.9 Vol %

**Upper:** 15.0 Vol %

**Vapor pressure at 20°C (68°F):** 59.0 hPa (44 mm Hg)

**Density at 20°C (68°F):** 0.860 g/cm<sup>3</sup>

**Solubility in / Miscibility with Water:** Fully miscible.

**Solvent content Organic solvents:** 99 %

**Solid contents:** 0.1 %

---

## SECTION 10 – STABILITY AND REACTIVITY

---

**Stability:** Stable

**Incompatibilities:**

Strong oxidizing agents, alkali metals  
ammonia and peroxides.

Protect from moisture.

**Hazardous Decomposition Products:**

Carbon Monoxide, Carbon Dioxide, Sulfur Oxides

**Hazardous Polymerization:**

Will not occur.

---

## SECTION 11–TOXICOLOGICAL INFORMATION

---

**Route of Exposure:**

**Skin Contact:**

May cause skin irritation  
Harmful if absorbed through skin

**Eye Contact:** Causes eye irritation

**Multiple Routes:**

May be harmful by inhalation,  
ingestion or skin absorption

Material is irritating to mucus membranes and upperrespiratory tract.  
Can cause CNS depression.

**RTECS #:** KQ6300000

**TARGET ORGAN DATA:**

BEHAVIORIAL (CHANGE IN MOTOR ACTIVITY)  
BEHAVIORIAL (SLEEP)  
BEHAVIORIAL (ATAXIA)  
BEHAVIORIAL (ANTIPSYCHOTIC)  
GASTROINTESTINAL (NAUSEA OR VOMITING)  
LIVER (TUMORS)  
BLOOD (LYMPHOMA INCLUDING HODGKIN'S DIEASE)  
LUNGS THORAX OR RESPIRATION (DYSPPNAE)  
SPECIFIC DEV. ABNORMALITIES (CRANIOFACIAL)

**IRRITATION DATA:**

SKN-RBT 400 MG OPEN MLD	UCDS** 7/22/1970
SKN-RBT 20 MG/24H MOD	85JCAE-, 189, 1986
EYE-RBT 500 MG SEV	AJOPAA 29,1363,1946
EYE-RBT 500 MG/24H MLD	85JCAE -,189,1986
EYE-RBT 100 MG/4S RINSE MOD	FCTOD7 20, 573,1982

**TOXICITY DATA:**

ORL-CHD LDLO:2 GM/KG	ATXKA8 17,183,1958
ORL-HMN LDLO: 1400 MG/KG	NPIRI* 1,44,1974
SCU-INF LDLO:19440 MG/KG	AJCPAI 5,466,1935
ORL-RAT LD50:7060 MG/KG	TXAPA9 16, 718,1970
IHL-RAT LC50:20000 PPM/10H	NPIRI* 1,44, 1974
IPR-RAT LC50:3600 UG/KG	PHMGBN 2, 27, 1969
IVN-RAT LD50; 1440 MG/KG	TXAPA9 18, 60, 1971
IAT-RAT LD50; 11 MG/KG	TXAPA9 18, 60, 1971
IVN-MUS LD50; 1973 MG/KG	HBTXAC 1, 128, 1955
IRP-MAM LD50; 4300 MG/KG	TXAPA9 13, 358, 1968
SCU-MUS LD50; 8285 MG/KG	FA0NAU 48A, 99, 1970

---

## SECTION 12–ECOLOGICAL INFORMATION

---

Data not yet available

---

## SECTION 13–DISPOSAL CONSIDERATIONS

---

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal state and local environmental regulations.  
Contact a licensed professional waste disposal service to dispose of this material.

---

## SECTION 14– TRANSPORT INFORMATION

---

### Domestic (LAND, D.O.T.)

**Proper Shipping Name:** AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

**HAZARD CLASS:** 3

**UN/NA:** UN1170

**PACKING GROUP:** II

**INFORMATION REPORTED FOR PRODUCT/SIZE:** 11OZ

### INTERNATIONAL (WATER, I.M.O.)

**Proper Shipping Name:** AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

**HAZARD CLASS:** 2.1

**UN/NA:** UN1170

**PACKING GROUP:** II

**INFORMATION REPORTED FOR PRODUCT/SIZE:** 11OZ

### INTERNATIONAL (AIR, I.C.A.O.)

**Proper Shipping Name:** AEROSOLS, FLAMMABLE N.O.S. (ETHANOL, ISOPROPANOL, METHANOL)

**HAZARD CLASS:** 3

**UN/NA:** UN1170

**PACKING GROUP:** II

**INFORMATION REPORTED FOR PRODUCT/SIZE:** 11OZ

---

## SECTION 15– REGULATORY INFORMATION

---

### European Information:

EC INDEX NO: 603-002-00-5

IRRITANT

R11

HIGHLY FLAMMABLE

S 7

**KEEP CONTAINERS CLOSED**

S 16

### Reviews Standards and Regulations:

OEL=MAK

ACGIH TLV: NOT Classifiable as a human carcinogen DTLVS\* TLV/BEI, 1999

ACGIH TLV-TWA 1000 PPM DTLVS\* TLV/BEI, 1999

IARC Cancer Review:Animal inadequate evidence imemdt 44, 35, 1988

EPA FIFRA1988 (B) Pesticide subject to registration or re-registration

OEL-FRANCE: VME 1000 PPM (1900 MG/M3), VLE 5000 PPM (2400 MG/M3)

**KEEP AWAY FROM SOURCES OF IGNITION-NO SMOKING**

---

## SECTION 16– OTHER INFORMATION

---

The above information is believed to be correct but does not purport to be allinclusive and shall be used only as a guide.

**New England Biolabs shall not be held liable for any damage resulting from handling or from contact with the above product.**



New England Biolabs  
240 Country Road  
Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

---

Telephone: (978)927-5054  
Toll free: 1-800-632-5227  
Fax: (978)921-1350  
e-mail: info@neb.com

**Buffer  
#E3300**

Msds Revision Date: 1/06

---

### SECTION 1-PRODUCT

---

**Product Name:** GLuc Assay Buffer

---

### SECTION 2-HAZARDOUS INFORMATION

---

NEB is not aware of any hazards for this product.

---

### SECTION 3-OTHER INFORMATION

---

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide.

New England Biolabs shall not be held liable for any damage resulting from handling or from contact with the above product.

---

### SECTION 14-TRANSPORT INFORMATION

---

**DOT**

**Proper Shipping Name:** None

**Non-hazardous for transport:** This substance is considered to be non-hazardous for transport.

---

### SECTION 15-REGULATORY INFORMATION

---

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

---

### SECTION 16 - REGULATORY INFORMATION

---

**DISCLAIMER:** For R&D use only. Not for drug, household or other uses.

**WARRANTY:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. New England Biolabs, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.