



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
OSHA 29 CFR 1910.1200

Document Type US - OSHA GHS

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Version 10

## 1. Identification

### Product identifier

Product name Q5™ Reaction Buffer

### Other means of identification

Product No B9027

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended use This product is for research and development only

Restrictions on use No information available

### Details of the supplier of the safety data sheet

#### **Supplier Address**

New England BioLabs  
240 County Road  
Ipswich, MA 01938  
USA

### Emergency telephone number

Company Phone Number 978-927-5054, 800-632-5227 (toll free)

Telefax 978-921-1350

E-mail address info@neb.com

24 Hour Emergency Phone Number Chemtrec +1 703-741-5970

## 2. Hazard(s) identification

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

### Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Other information

May be harmful if swallowed.

## 3. Composition/information on ingredients

### Substance

Not applicable.

### Mixture

Chemical name	CAS No.	Weight-%	Trade secret
Potassium Chloride	7447-40-7	1 - 5	*
Ammonium Sulfate	7783-20-2	1 - 5	*

## 4. First-aid measures

### Description of first aid measures

<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	No information available.
<b>Effects of Exposure</b>	No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. Fire-fighting measures**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** No information available.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**7. Handling and storage****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place.

**8. Exposure controls/personal protection****Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering controls**                      Showers  
 Eyewash stations  
 Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**                      No special protective equipment required.

**Skin and body protection**                      No special protective equipment required.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**                      Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

**Physical state**                                      Liquid  
**Appearance**                                      Colorless  
**Color**    Colorless  
**Odor**     Mild  
**Odor threshold**                                    No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>pH</b>	8.5	
<b>Melting point / freezing point</b>	No data available	
<b>Initial boiling point and boiling range</b>	100 °C / 212 °F	
<b>Flash point</b>	100 °C / 212 °F	
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b><u>Other information</u></b>		
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	
<b>Softening point</b>	No information available	
<b>Molecular weight</b>	No information available	

VOC content No information available  
 Liquid Density No information available  
 Bulk density No information available

## 10. Stability and reactivity

Reactivity No information available.  
 Chemical stability Stable under normal conditions.  
 Possibility of hazardous reactions None under normal processing.  
 Conditions to avoid None known based on information supplied.  
 Incompatible materials None known based on information supplied.  
 Hazardous decomposition products None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available.  
 Eye contact Specific test data for the substance or mixture is not available.  
 Skin contact Specific test data for the substance or mixture is not available.  
 Ingestion Specific test data for the substance or mixture is not available.

### Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

### Acute toxicity

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 4,532.80 mg/kg  
 ATEmix (dermal) 16,025.60 mg/kg  
 ATEmix (inhalation-gas) 99,999.00 ppm  
 ATEmix (inhalation-dust/mist) 99,999.00 mg/l  
 ATEmix (inhalation-vapor) 99,999.00 mg/l

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Chloride 7447-40-7	= 2600 mg/kg ( Rat )	-	-
Ammonium Sulfate 7783-20-2	= 2840 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.
<b>Other adverse effects</b>	No information available.
<b>Interactive effects</b>	No information available.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium Chloride 7447-40-7	EC50: =2500mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: =1060mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 750 - 1020mg/L (96h, <i>Pimephales promelas</i> )	-	EC50: =825mg/L (48h, <i>Daphnia magna</i> ) EC50: =83mg/L (48h, <i>Daphnia magna</i> )
Ammonium Sulfate 7783-20-2	-	LC50: =250mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =480mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =420mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =18mg/L (96h, <i>Cyprinus carpio</i> ) LC50: 32.2 - 41.9mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: 5.2 - 8.2mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: >100mg/L (96h, <i>Pimephales promelas</i> ) LC50: 123 - 128mg/L (96h, <i>Poecilia reticulata</i> ) LC50: =126mg/L (96h,	-	LC50: =14mg/L (48h, <i>Daphnia magna</i> )

		Poecilia reticulata)		
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**Persistence and degradability** No information available.

#### Bioaccumulation

#### Component Information

Chemical name	Partition coefficient
Ammonium Sulfate 7783-20-2	-5.1

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**DOT** Not regulated

**TDG** Not regulated

**MEX** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

### 15. Regulatory information

#### International Inventories

<b>TSCA</b>	Contact supplier for inventory compliance status.
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.
<b>AIIIC</b>	Contact supplier for inventory compliance status.
<b>NZIoC</b>	Contact supplier for inventory compliance status.

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Ammonium Sulfate - 7783-20-2	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Ammonium Sulfate 7783-20-2	-	X	X

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 0	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 1	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> X

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)



U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

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**Disclaimer**

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**End of Safety Data Sheet**