# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: REACH Regulation (EC) No 1907/2006, as retained in UK law by (SI 2019/758 as amended)

**Revision date** 15-Oct-2026 **Revision Number** 3

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product Name** 2X KLD Reaction Buffer

**Product Code(s)** B0554

**Substance/mixture** Mixture

**Other information** This document is not required as per the local legislation, but is instead provided for information purposes

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended use** This product is for research and development only

**Uses advised against** No information available

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

**Manufacturer**
**New England Biolabs (U.K.) Limited**
75/77 Knowl Piece, Wilbury Way
Hitchin, Herts SG4 0TY
United Kingdom
Telephone: +44 (0) 1462 420616
Call Free 0800 318486
Fax: + 44 (0) 1462 421057
Fax Free: 0800 435682

**Supplier**
**New England Biolabs, Inc.**
240 County Road
Ipswich, MA 01938
USA
Telephone: 978-928-5054
(toll-free) 1-800-632-5227
Fax: 978-921-1350

For further information, please contact

**E-mail address** info@neb.com

### 1.4. Emergency telephone number

Emergency Telephone Chemtrec +44 20 3885 0382

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GB CLP (SI 2020/1567 as amended)**
Not classified

### 2.2. Label elements

Not classified

**Hazard statements**
Not classified.

**2.3. Other hazards**

**Other hazards** No information available.

**PBT or vPvB properties** The mixture does not contain any substances meeting the PBT or vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**
Not applicable

**3.2 Mixtures**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Full text of H- and EUH-phrases: see section 16**

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.

**Skin contact** Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.

**Ingestion** Rinse mouth.

**4.2. Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Effects of Exposure** No information available.

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

**Note to doctors** Treat symptomatically.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

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

**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

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

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**6.3. 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** Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

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

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

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

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

**7.3. Specific end use(s)**

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. 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.

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

**Derived No Effect Level (DNEL) - Workers** No information available

**Derived No Effect Level (DNEL) - General Public** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering controls** No information available.

**Personal protective equipment**

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

**Hand 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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Colourless |
| **Colour** | No information available |
| **Odour** | Mild. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **Melting point / freezing point** | No data available | None known |
| **Initial boiling point and boiling range** | No data available | None known |
| **Flammability** | No data available | None known |
| **Flammability Limit in Air** | | None known |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive** | No data available | |

| | | |
|---|---|---|
| **limits** | | |
| **Flash point** | No data available | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | | None known |
| **pH** | No data available | None known |
| **pH (as aqueous solution)** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |
| **Water solubility** | No data available | None known |
| **Solubility(ies)** | No data available | None known |
| **Partition coefficient** | No data available | None known |
| **Vapour pressure** | No data available | None known |
| **Relative density** | No data available | None known |
| **Bulk density** | No data available | |
| **Liquid Density** | No data available | |
| **Relative vapour density** | No data available | None known |
| **Particle characteristics** | | |
| **Particle Size** | No information available | |
| **Particle Size Distribution** | No information available | |
| **Explosive properties** | No information available | |
| **Oxidising properties** | No information available | |

**9.2. Other information**

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

**Reactivity** No information available.

**10.2. Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**
**Sensitivity to mechanical impact** None.
**Sensitivity to static discharge** None.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**10.4. Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**10.5. Incompatible materials**

**Incompatible materials** None known based on information supplied.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **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** | Based on available data, the classification criteria are not met. |
| **Numerical measures of toxicity** | No information available. |

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

| | |
|---|---|
| **Skin corrosion/irritation** | Based on available data, the classification criteria are not met. |
| **Serious eye damage/eye irritation** | Based on available data, the classification criteria are not met. |
| **Respiratory or skin sensitisation** | Based on available data, the classification criteria are not met. |
| **Germ cell mutagenicity** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Reproductive toxicity** | Based on available data, the classification criteria are not met. |
| **STOT - single exposure** | Based on available data, the classification criteria are not met. |
| **STOT - repeated exposure** | Based on available data, the classification criteria are not met. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. |
| **Other adverse effects** | No information available. |

## SECTION 12: Ecological information

| | |
|---|---|
| **12.1. Toxicity** | Based on available data, the classification criteria are not met. |

**12.2. Persistence and degradability** No information available.

**12.3. Bioaccumulative potential** No information available.

**12.4. Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment** This product does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6. Other adverse effects** No information available.

## SECTION 13: Disposal considerations

**13.1. 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.

## SECTION 14: Transport information

**IATA**

| | |
|---|---|
| **14.1 UN number or ID number** | Not regulated |
| **14.2 UN proper shipping name** | Not regulated |
| **14.3 Transport hazard class(es)** | Not regulated |
| **14.4 Packing group** | Not regulated |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special precautions for user Special Provisions** | None |

**IMDG**

| | |
|---|---|
| **14.1 UN number or ID number** | Not regulated |
| **14.2 UN proper shipping name** | Not regulated |
| **14.3 Transport hazard class(es)** | Not regulated |
| **14.4 Packing group** | Not regulated |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special precautions for user Special Provisions** | None |
| **14.7 Maritime transport in bulk according to IMO instruments** | No information available |

**RID**

| | |
|---|---|
| **14.1 UN number or ID number** | Not regulated |
| **14.2 UN proper shipping name** | Not regulated |
| **14.3 Transport hazard class(es)** | Not regulated |
| **14.4 Packing group** | Not regulated |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special precautions for user Special Provisions** | None |

**ADR**

| | |
|---|---|
| **14.1 UN number or ID number** | Not regulated |
| **14.2 UN proper shipping name** | Not regulated |
| **14.3 Transport hazard class(es)** | Not regulated |
| **14.4 Packing group** | Not regulated |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special precautions for user** | |
| **Special Provisions** | None |

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations**

**Authorisations and/or restrictions on use:**
This product does not contain substances subject to authorisation (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

**Persistent Organic Pollutants**
Not applicable

**Export Notification requirements**
Not applicable

**Named dangerous substances per COMAH (SI 2015/483 as amended)**
Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**
Not applicable

**GB Biocidal Products Regulation (Reg. (EU) 528/2012)**
Not applicable

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)**
Not applicable

**Poisons and Explosives Precursor per Poisons Act 1972**
Not applicable.

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
**National regulations**
**Authorisations and/or restrictions on use:**
This product does not contain substances subject to authorisation (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

**Persistent Organic Pollutants**
Not applicable

**Export Notification requirements**
Not applicable

**Named dangerous substances per COMAH (SI 2015/483 as amended)**
Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**
Not applicable

**GB Biocidal Products Regulation (Reg. (EU) 528/2012)**

Not applicable

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)**
Not applicable

**Poisons and Explosives Precursor per Poisons Act 1972**
Not applicable

**International Inventories**
Contact supplier for inventory compliance status

**15.2. Chemical safety assessment**
**Chemical Safety Report** No information available

## SECTION 16: Other information

**Key or legend to abbreviations and acronyms used in the safety data sheet**
*List may include phrases which are not applicable to this product*

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ADN | Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe) |
| ADR | Agreement concerning the International Carriage of Dangerous Goods by Road (Europe) |
| AIIC | Australian Inventory of Industrial Chemicals |
| ATE | Acute Toxicity Estimate |
| ASTM | American Society for the Testing of Materials |
| bar | Biological Reference Values for Chemical Compounds in the Work Area |
| BAT | Biological tolerance values for occupational exposure |
| BEL | Biological exposure limits |
| bw | Body weight |
| Ceiling | Maximum limit value |
| CLP | Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008 |
| CMR | Carcinogen, Mutagen or Reproductive Toxicant |
| DOT | Department of Transportation (United States) |
| DSL | Domestic Substances List (Canada) |
| EC Number | European Community number |
| EINECS | European Inventory of Existing Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ENCS | Existing and New Chemical Substances (Japan) |
| EPA | U.S. Environmental Protection Agency |
| GHS | Globally Harmonized System |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IBC | International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk |
| ICAO | International Civil Aviation Organisation |
| IECSC | Inventory of Existing Chemical Substances in China |
| IMDG | International Maritime Dangerous Goods |
| IMO | International Maritime Organization |
| ISO | International Organisation for Standardisation |
| KECI | Korean Existing Chemicals Inventory |
| LC50 | Lethal Concentration to 50% of a test population |
| LD50 | Lethal Dose to 50% of a test population (Median Lethal Dose) |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| NDSL | Non-Domestic Substances List (Canada) |

| | |
|---|---|
| n.o.s. | Not Otherwise Specified |
| NOAEC | No Observed Adverse Effect Concentration |
| NOAEL | No Observed Adverse Effect Level |
| NOELR | No Observable Effect Loading Rate |
| NZIoC | New Zealand Inventory of Chemicals |
| OECD | Organization for Economic Cooperation and Development |
| OEL | Occupational exposure limits |
| PBT | Persistent, Bioaccumulative and Toxic substance |
| PICCS | Philippines Inventory of Chemicals and Chemical Substances |
| PMT | Persistent, Mobile and Toxic |
| PPE | Personal protective equipment |
| QSAR | Quantitative Structure Activity Relationship |
| REACH | Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006) |
| RID | Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe) |
| SADT | Self-Accelerating Decomposition Temperature |
| SAR | Structure-activity relationship |
| SDS | Safety Data Sheet |
| SL | Surface Limit |
| STEL | Short Term Exposure Limit |
| STOT RE | Specific target organ toxicity - Repeated exposure |
| STOT SE | Specific target organ toxicity - Single exposure |
| SVHC | Substance of very high concern |
| TCSI | Taiwan Chemical Substance Inventory |
| TDG | Transport of Dangerous Goods (Canada) |
| TSCA | Toxic Substances Control Act (United States) |
| TWA | Time-Weighted Average |
| UN | United Nations |
| VOC | Volatile organic compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| vPvM | Very Persistent and Very Mobile |
| As | Allergenic substance |
| DS | Dermal Sensitizer |
| Ot | Ototoxicant |
| pOt | Ototoxicant - potential to cause hearing disorders |
| PS | Photosensitiser |
| RS | Respiratory Sensitiser |
| S | Sensitiser |
| poS | Sensitizer - capable of causing occupational asthma |
| Sa | Simple asphyxiant |
| Sd | Skin designation |
| pSd | Skin designation - potential for cutaneous absorption |
| Sdv | Skin designation - vacated |
| Sk | Skin notation |
| dSk | Skin notation - danger of cutaneous absorption |
| pSk | Skin notation - potential for cutaneous absorption |

| Classification procedure | |
|---|---|
| Classification according to GB CLP (SI 2020/1567 as amended) | Method Used |
| Acute oral toxicity | Calculation method |
| Acute dermal toxicity | Calculation method |
| Acute inhalation toxicity - gas | Calculation method |
| Acute inhalation toxicity - vapour | Calculation method |
| Acute inhalation toxicity - dust/mist | Calculation method |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |

| | |
|---|---|
| Respiratory sensitisation | Calculation method |
| Skin sensitisation | Calculation method |
| Mutagenicity | Calculation method |
| Carcinogenicity | Calculation method |
| Reproductive toxicity | Calculation method |
| STOT - single exposure | Calculation method |
| STOT - repeated exposure | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Aspiration hazard | Calculation method |
| Ozone | Calculation method |

**Key literature references and sources for data used to compile the SDS**
U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
U.S. Environmental Protection Agency
U.S. EPA 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
U.S. Hazardous Substance Data Bank (HSDB)
International Uniform Chemical Information Database (IUCLID)
Japan National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
U.S. National Institute for Occupational Safety and Health (NIOSH)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
United Nations World Health Organization (WHO)

**Revision date** 15-Oct-2026

**Revision Note** Updated format

**Training Advice** Adequate training is required before industrial or professional use

**This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)**

**Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

**Disclaimer**
**The information provided in this Safety Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide for safe handling, use, processing, storage, transportation, disposal and release and should not be taken as a warranty or quality specification. The information relates only to the specific material and may not be valid for such material used in combination with any other materials or in any process unless expressly specified in the text. New England Biolabs will not be liable for any damages resulting from handling or contact with the product.**

**End of Safety Data Sheet**