

Revision date 08-Dec-2023

Version 2

Section 1: Identification

Product identifier

Product name BL21(DE3) Competent E.coli

Product No C2527

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use This product is for research and development only

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

New England BioLabs (Australia) Pty Ltd
22/270 Ferntree Gully Road
Notting Hill, VIC 3168

E-mail address info.au@neb.com

Emergency telephone number

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

National Poisons Centre 0800 764 766 (toll free)

24 Hour Emergency Phone Number Chemtrec +65 3163 8374

Section 2: Hazard identification

GHS Classification

Not classified

Label elements

Hazard statements

Not classified

Other hazards which do not result in classification

Per Centers for Disease Control and Prevention (CDC) Guidelines (Biosafety in Microbiological and Biomedical Laboratories, 5th Edition), this material can be handled at Biological Safety Level One (BSL-1) containment.

Biological Safety Level One (BSL-1) containment, using standard microbiological practices, is suitable for work involving well-characterized microbiological organisms not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment.

Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Dimethyl Sulfoxide	67-68-5	0 - 10%
Calcium Chloride	10043-52-4	0 - 10%

Non-hazardous ingredients	Proprietary	Balance
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Section 4: First-aid measures

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 physician.
Skin contact	Wash skin with soap and water.
Ingestion	Rinse mouth.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: Fire-fighting measures

Suitable extinguishing media

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.

Special exposure hazards in a fire

Specific hazards arising from the chemical No information available.

Protective equipment and precautions for firefighters

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

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

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.

Precautions to prevent secondary hazards

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

Section 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 containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials None known based on information supplied.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological 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.

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.

Environmental exposure controls No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

Appearance Colorless

Color No information available

Odor None.

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6.2	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	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
Autoignition temperature	215 °C	

Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available.	
Oxidizing properties	No information available.	

Other information

Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available
Particle characteristics	No information available

Section 10: Stability and reactivity**Reactivity**

Reactivity	No information available.
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Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Conditions to avoid

Conditions to avoid	None known based on information supplied.
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Incompatible materials

Incompatible materials	None known based on information supplied.
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Hazardous decomposition products

Hazardous decomposition products	None known based on information supplied.
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Section 11: Toxicological information**Acute toxicity****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 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)	34,822.90 mg/kg
ATEmix (dermal)	63,411.50 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Dimethyl Sulfoxide	= 28300 mg/kg (Rat)	= 40000 mg/kg (Rat)	> 5.33 mg/L (Rat) 4 h
Calcium Chloride	= 1000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Data used to identify the health effects Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Dimethyl Sulfoxide	-	LC50: =34000mg/L (96h, Pimephales promelas) LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: >40g/L (96h, Lepomis macrochirus) LC50: =41.7g/L (96h, Cyprinus carpio)	-
Calcium Chloride	-	LC50: =10650mg/L (96h, Lepomis macrochirus)	LC50: 2280000 - 3948000µg/L (48h, Daphnia magna)

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Dimethyl Sulfoxide	-1.35

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products Not applicable.
Not Hazardous.

Contaminated packaging Not applicable.
Not Hazardous.

Section 14: Transport information

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

Regulatory information

National regulations

EPA New Zealand HSNO approval code or group standard To be determined

National regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

NZIoC	Contact supplier for inventory compliance status.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals

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

AIIC - Australian Inventory of Chemical Substances

Section 16: Other information

Prepared by

Environmental, Health and Safety

978-927-5054

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Revision note

SDS is valid 3 years from revision date. Contact info@neb.com for latest revision

***Indicates updated data since last publication.

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
C	Carcinogen		

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

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