

Revision date 08-Dec-2023

Version 2

## Section 1: Identification

### Product identifier

**Product name** Lemo21(DE3) Competent E.coli

**Product No** C2528

### 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 |
|---------------------------|-------------|---------|

## 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.<br>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. |
|----------|---------------------------|

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

|                    |                        |
|--------------------|------------------------|
| Note to physicians | Treat symptomatically. |
|--------------------|------------------------|

## 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> |
|--|-------------------|-------------------------|
| <b>pH</b>                                      | 6.2               |                         |
| <b>Melting point / freezing point</b>          | No data available | None known              |
| <b>Initial boiling point and boiling range</b> | No data available | None known              |
| <b>Flash point</b>                             | No data available | None known              |
| <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>                | 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. |
|------------|---------------------------|

**Chemical stability**

|           |                                 |
|-----------|---------------------------------|
| Stability | Stable under normal conditions. |
|-----------|---------------------------------|

**Explosion data**

|                                  |       |
|----------------------------------|-------|
| Sensitivity to mechanical impact | None. |
|----------------------------------|-------|

|                                 |       |
|---------------------------------|-------|
| Sensitivity to static discharge | None. |
|---------------------------------|-------|

**Possibility of hazardous reactions**

|                                    |                               |
|------------------------------------|-------------------------------|
| Possibility of hazardous reactions | None under normal processing. |
|------------------------------------|-------------------------------|

**Conditions to avoid**

|                     |   |
|---------------------|---|
| Conditions to avoid | None known based on information supplied. |
|---------------------|---|

**Incompatible materials**

|                        |   |
|------------------------|---|
| Incompatible materials | None known based on information supplied. |
|------------------------|---|

**Hazardous decomposition products**

|                                  |   |
|----------------------------------|---|
| Hazardous decomposition products | None known based on information supplied. |
|----------------------------------|---|

**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)                 | 35,701.50 mg/kg |
| ATEmix (dermal)               | 65,487.90 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)<br>LC50: 33 - 37g/L (96h, Oncorhynchus mykiss)<br>LC50: >40g/L (96h, Lepomis macrochirus)<br>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

|                      |   |
|----------------------|---|
| <b>NZIoC</b>         | Contact supplier for inventory compliance status. |
| <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>AIIC</b>          | 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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08-Dec-2023

**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

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**End of Safety Data Sheet**