

**Material Safety Data Sheet**

Version No.: 6.0(29-07-2026)

**100 bp DNA Ladder**

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**1. Product and company identification**

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A. Product Name: 100 bp DNA Ladder

B. Recommended Use: For research and development use only.

Not for pharmaceutical, household, or any other uses.

C. Supply Information

☐ Company: BIONEER☐ Address: BIONEER Global Center 71, Techno 2-ro, Yuseong-gu, Daejeon, 34013, Republic of Korea☐ Emergency telephone number: +82-1588-9788

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**2. Hazards identification**

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A. Classification of the substance of mixture : N/A

Not classified as a hazardous substance or mixture according to the Regulation (EC) No 1272/2008 (CLP), the Industrial Safety and Health Act (Republic of Korea), and the Chemical Control Act (Republic of Korea) Label elements

B. Label elements

☐ Hazard pictograms: N/A☐ Signal word: N/A☐ Hazard statements: N/A☐ Precautionary statements: N/A

C. Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

Hazards – Other hazards which do not result in classification – Hazard Risk

Not applicable

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**3. Composition/information on ingredients**

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| Component | Synonyms            | CAS. No.  | Concentration(%) |
|-----------|---------------------|-----------|------------------|
| Water     | Dihydrogen monoxide | 7732-18-5 | > 95%            |

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\* This product contains no hazardous ingredients at or above the concentration limits specified by Regulation (EC) No 1272/2008 (CLP).

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## 4. First aid measures

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### 1 Description of first aid measures

A. In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

B. In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

C. If inhaled

Remove person to fresh air and keep comfortable for breathing.

D. If swallowed

Call a poison center or a doctor if you feel unwell.

E. Other medical advice or treatment

Treat symptomatically.

A. Most important symptoms and effects, both acute and delayed

irritant effects

B. Indication of any immediate medical attention and special treatment needed

No information available.

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## 5. Fire-fighting measures

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A. A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, dry powder, foam, carbon dioxide.

Unsuitable extinguishing media: No data available

B. Special hazards arising from the substance or mixture

No data available

C. Special protective equipment and precautions for fire-fighters

Protection during firefighting:

Do not attempt to take action without suitable protective equipment.

Self-contained breathing apparatus.

Complete protective clothing.

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## 6. Accidental release measures

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### A. Personal precautions, protective equipment and emergency procedures

Ventilate spillage area.

Do not attempt to take action without suitable protective equipment.

Dispose of materials or solid residues at an authorized site.

### B. Environmental precautions and protective procedures

Avoid release to the environment.

### C. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material.

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## 7. Handling and storage

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### A. Precautions for safe handling

#### ☐ Precautions for safe handling

Ensure good ventilation of the work station.

Wear personal protective equipment.

#### ☐ Hygiene measures

Do not eat, drink or smoke when using this product.

Always wash hands after handling the product.

### B. Conditions for safe storage

#### ☐ Storage conditions

Store frozen at  $-70^{\circ}\text{C}$  to  $-20^{\circ}\text{C}$

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## 8. Exposure controls / personal protection

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### A. Occupational Exposure Limits

No data available

### B. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

### C. Personal protection equipment

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment

Eye protection: Safety glasses

Hand protection: Protective gloves

Skin and body protection: Wear suitable protective clothing

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## 9. Physical and chemical properties

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A. Appearance

Form : Liquid

Color : Blue

B. Odor : No data available.

C. Odor Threshold : No data available.

D. pH : 6.0 – 8.0

E. Melting point : No data available.

F. Initial boiling point : No data available.

G. Flash point : No data available.

H. Evaporation rate : No data available.

I. Flammability : No data available.

G. Lower explosion limit/Upper explosion limit : No data available.

K. Vapor pressure : No data available.

L. Water solubility : No data available.

M. Relative vapor density : No data available.

N. Density : No data available.

O. Partition coefficient: n-octanol/water : No data available.

P. Autoignition temperature : No data available.

Q. Decomposition temperature : No data available.

R. Viscosity : No data available.

S. Molecular weight : No data available.

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## 10. Stability and Reactivity

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A. Chemical stability and Possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions.

No dangerous reactions known under normal conditions of use.

B. Conditions to avoid

Humidity, High temperature

C. Incompatible materials

No data available

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D. Hazardous decomposition products

No data available

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## 11. Toxicological information

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A. Information on exposure routes

No data available

B. Health hazards

– mixture

Acute toxicity (oral): Not classified

Acute toxicity (dermal): Not classified

Acute toxicity (inhalation): Not classified

※ Reference: ECHA

Skin corrosion/irritation: Not classified; hazardous constituents are present below the concentration limits.

Serious eye damage/irritation: Not classified; hazardous constituents are present below the concentration limits.

Respiratory sensitization: Not classified; hazardous constituents are present below the concentration limits.

Skin sensitization: Not classified; hazardous constituents are present below the concentration limits.

※ Reference: ECHA

Carcinogenicity: No data available

Mutagenicity: No data available

Reproductive toxicity: No data available

STOT–single exposure: No data available

STOT–repeated exposure: Not classified; hazardous constituents are present below the concentration limits.

Aspiration hazard: No data available

C. Further information : No data available

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## 12. Ecological information

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A. Exotoxicity

Not classified; hazardous constituents are present below the concentration limits.

B. Persistence and degradability

No data available

C. Bioaccumulative potential

No data available

D. Mobility in soil

No data available

E. Other adverse effects

Ozone: No data available

Other adverse effects: No additional information available

### 13. Disposal considerations

A. Disposal method

Dispose of contents/container in accordance with licensed collector's sorting instructions.

B. Disposal precaution

No data available

### 14. Transport information

| UN RTDG                                            | ADR                               | IMDG                                                      | IATA                              |
|----------------------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------|
| A. UN number                                       |                                   |                                                           |                                   |
| Not regulated for transport                        |                                   |                                                           |                                   |
| B. UN proper shipping name                         |                                   |                                                           |                                   |
| Not applicable                                     | Not applicable                    | Not applicable                                            | Not applicable                    |
| C. Transport hazard class(es)                      |                                   |                                                           |                                   |
| Not applicable                                     | Not applicable                    | Not applicable                                            | Not applicable                    |
| D. Packaging group                                 |                                   |                                                           |                                   |
| Not applicable                                     | Not applicable                    | Not applicable                                            | Not applicable                    |
| E. Marine pollutant                                |                                   |                                                           |                                   |
| Dangerous for the environment: No                  | Dangerous for the environment: No | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No |
| No supplementary information available             |                                   |                                                           |                                   |
| F. Special precautions for user: No data available |                                   |                                                           |                                   |

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## 15. Regulatory information

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- A. Occupational Safety and Health Act
  - Hazardous Substances Prohibited for Manufacturing: Not applicable
  - Hazardous Substances Requiring Permission: Not applicable
  - Threshold Limit Values Chemicals: Not applicable
  - Hazardous Substances Below Permissible Level: Not applicable
  - Hazardous Substances Subject to Working Environment Measurement: Not applicable
  - Hazardous Substances Subject to Workers Requiring Health Examination: Not applicable
  - Hazardous Substances Subject to Control: Not applicable
  - Substance Subject to PSM Submission: Not applicable
- B. Chemicals Control Act
  - Not applicable
- C. ACT ON REGISTRATION, EVALUATION, ETC. OF CHEMICALS (K-REACH)
  - Priority Existing Chemical ('PEC') – subject to registration: Not applicable
  - Priority Control Substances (Korea): Not applicable
  - CMR Substances (Korea): Not applicable
- D. Safety Control of Dangerous Substances Act
  - Safety Control of Dangerous Substances Act: Not applicable
- E. Wastes Control Act
  - Hazardous Substances in Designated wastes: Medical waste
  - Types of wastes: No data available
- F. Other Domestic and International Regulatory Information
  - ☐ Domestic
    - Persistent Organic Pollutants(POPs) Control Act: Not applicable
    - Ozone Depleting Substances(ODS): Not applicable
  - ☐ International (EU Regulatory Information)
    - EU Candidate list (SVHC): Contains no substance on the REACH candidate list
    - EU authorization list (REACH Annex XIV): Contains no REACH Annex XIV substances
    - EU restriction list (REACH Annex XVII): Not applicable
  - ☐ US Regulatory Information
    - CERCLA Section 103 (40CFR302.4): Not applicable
    - EPCRA Section 302 (40CFR355.30): Not applicable
    - EPCRA Section 304 (40CFR355.40): Not applicable
    - EPCRA Section 313 (40CFR372.65): Not applicable

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☐ International agreements

No data available

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## 16. Other information

### A. List of references

- MSDS(Sigma-Aldrich, Bioneer)
- ECHA
- HSDB
- NITE
- PubChem
- NITE
- KOSHA
- Ministry of environment of KOREA

### B. Date of issue/revision

- First issue date: 2012-11-29
- Last revision date: 2026-07-29

### C. Version: 6

### D. Further information

- Store frozen at -70°C to -20°C

Bioneer Corporation makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local laws or regulations.