

1. Identification of the substance/mixture and of the company/undertaking

1.1 Identification of the substance/preparation

Product name : ProMetric™ TriColor Low Range Protein Ladder, 2 to 40 kDa

Product code : PM6628

Recommended use : For Research Use Only. Suitable for use as molecular weight standards for SDS-PAGE electrophoresis.

1.2 Company/Undertaking identification

SMOBIO Technology, Inc.

3F, No. 15, Industry E. 9th Rd., Hsinchu Science Park, Hsinchu 300096, Taiwan

Tel : +886 3 5799292

Fax : +886 3 5790202

E-mail : support@smobio.com

1.3 Emergency telephone number

Emergency telephone : +886 3 5799292 (09.00-18.00 TST)

2. Hazards identification

2.1 Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) Classification to Regulation (EC) No 1272/2008

2.2 Label elements

Symbol(s) : Void

Signal Word : Warning!

May cause eye, skin and respiratory tract irritation. Combustible liquid and vapor.

2.3 Other information

Hazards deriving from physical-chemical properties : The data available do not support any physical or chemical hazard , but not flammable.

Human health hazards : May be irritating to eyes, respiratory system and skin.

*Caution: Avoid inhalation, ingestion, and skin contacts.

Environmental hazards : The data available do not support any environmental hazard.

3. Composition/information on ingredient

3.1 Ingredients

<u>Chemical name</u>	<u>Concentration</u>	<u>EC No.</u>	<u>CAS No.</u>	<u>Classification</u>
Sodium dodecyl sulfate	1 %	205-788-1	51-21-3	Xn;R21/22-36/38, Acute Tox.4;H302/H312
Urea	< 25 %	200-315-5	57-13-6	Not classified
Tris-phosphate	1-2 %	230-260-2	6992-39-8	Not classified
Dimethyl sulfoxide	20 %	200-664-3	67-68-5	Xi ; R36/R37/R38

3.2 Other components

Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1272/2008/EC.

3.3 Additional information

For the wording of the listed risk phrases refer to section 16.

4. First aid measures

4.1 General information

No special measures required.

4.2 Description of first aid measures

In case of ingestion : Wash out mouth with water and give 100 - 200 ml of water to drink. Do NOT induce vomiting. If symptoms develop obtain medical attention.

In case of inhalation : Remove patient from exposure, keep warm and at rest. If symptoms develop obtain medical attention.

In case of skin contact : Wash off immediately with plenty of water. If symptoms develop obtain medical attention.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms develop obtain medical attention.

5. Fire fighting measures

5.1 Suitable extinguishing agents

Water spray, Carbon dioxide (CO₂), dry chemical powder or appropriate foam.

5.2 Not suitable extinguishing agents

None.

<p>5.3 Special exposure hazards from decomposition products</p> <p>Not thoroughly investigated.</p> <p>5.4 Protective equipment</p> <p>Wear self-contained breathing apparatus and protective clothing.</p>																														
<p>6. Accidental release measures</p> <p>6.1 Personal precautions</p> <p>Wear appropriate gloves (see Section 8), safety glasses to clean small releases/spillage. In case of vapor/aerosol formation, wear suitable respiratory protection means.</p> <p>6.2 Environmental precautions</p> <p>Avoid discharge into drains, water courses or onto the ground.</p> <p>6.3 Methods for cleaning up</p> <p>Absorb spillages with liquid-binding material. Ventilate and wash the area after the spillage is completely removed.</p> <p>6.4 Additional information</p> <p>No dangerous substance are released.</p>																														
<p>7. Handling and storage</p> <p>7.1 Handling</p> <p>No further requirements. Use appropriate personal protection measures (see Section 8). Avoid any contact with the liquid. Avoid the formation of aerosols. Ventilate area.</p> <p>7.2 Storage</p> <p>Protected from light, store at 4°C. No other specific requirements relating to the preparation.</p>																														
<p>8. Exposure controls/personal protection</p> <p>8.1 Control parameters</p> <table border="1"> <thead> <tr> <th>Chemical name</th> <th>CAS No.</th> <th></th> <th colspan="2">Exposure limits</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Dimethyl sulfoxide</td> <td rowspan="5">67-68-5</td> <td>Germany</td> <td>TWA:50ppm</td> <td>TWA:160mg/m³</td> </tr> <tr> <td>Finland</td> <td>TWA:50ppm</td> <td></td> </tr> <tr> <td>Denmark</td> <td>TWA:50ppm</td> <td>TWA:160mg/m³</td> </tr> <tr> <td>Austria</td> <td>TWA:50ppm</td> <td>TWA:160mg/m³</td> </tr> <tr> <td>Switzerland</td> <td>TWA:50ppm</td> <td>TWA:160mg/m³</td> </tr> <tr> <td>Sodium dodecyl sulfate</td> <td>151-21-3</td> <td></td> <td colspan="2">No data available</td> </tr> </tbody> </table>				Chemical name	CAS No.		Exposure limits		Dimethyl sulfoxide	67-68-5	Germany	TWA:50ppm	TWA:160mg/m ³	Finland	TWA:50ppm		Denmark	TWA:50ppm	TWA:160mg/m ³	Austria	TWA:50ppm	TWA:160mg/m ³	Switzerland	TWA:50ppm	TWA:160mg/m ³	Sodium dodecyl sulfate	151-21-3		No data available	
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Urea	57-13-6	No data available
Tris-phosphate	6992-39-8	No data available

8.2 Exposure controls

Engineering measures : Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors.

8.3 Personal protection

Respiratory protection : No special measures required. In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection : Wear rubber gloves. No special requirements to rubber.

Eye protection : Safety glasses (goggles) are recommended during ordinary operations with the preparation.

Skin protection : The usual precautionary measures accepted in research laboratories, e.g. protective clothes (gowns). No specific requirements.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Liquid.

Color: Blue-purple.

Odor: Odorless or weak.

pH-value at 25°C: 7.5.

Boiling point: 189°C.

Flash Point: 89°C.

Flammability / autoflammability: The preparation is not flammable/self-igniting.

Explosive properties: The preparation does not possess explosive properties.

Oxidizing properties: Not applicable.

Vapor pressure: Not applicable.

Relative density at 20°C: ~1 g/cm³.

Solubility in/miscibility with water: Fully miscible.

Fat solubility: Not applicable.

Vapor density: Not applicable.

Evaporation rate: Not applicable.

Conductivity: Not applicable.

Viscosity: Not viscous.

9.2 Other information

No further relevant information available.

10. Stability and reactivity

10.1 Stability

Stable under normal temperature conditions.

10.2 Reactivity

No information available.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

No conditions which may cause dangerous reactions.

10.5 Incompatible materials

No in particular.

10.6 Hazardous decomposition products

No dangerous decomposition products known.

11. Toxicological information

11.1 Information on toxicology effects

Acute toxicity:

Not hazardous.

Inhalation:

Inhalation of aerosols may cause allergic type reactions in sensitized individuals.

Ingestion:

Repeated ingestion or excessive dosage may cause irritation of the gastrointestinal tract.

Skin and eye contact:

Generally, the product does not irritate the skin and eyes. Prolonged skin or eye contact may cause minor irritation.

<u>Chemical name</u>	<u>LD50 Oral</u>	<u>LD50 Dermal</u>	<u>LD50 Inhalation</u>
Dimethyl sulfoxide	145000 mg/kg(Rat)	40000 mg/kg(Rat)	
Sodium dodecyl sulfate	1288 mg/kg(Rat)	580 mg/kg(Rat)	3900 mg/m3 (Rat)1h

Chronic toxicity : May cause injury to the liver and kidneys.

Carcinogenic effects:

Product does not present a carcinogenic effects based on known or supplied information.

Mutagenic effects:

Product does not present a c mutagenic effects based on known or supplied information.

Reproductive toxicity:

Product does not present a reproductive toxicity hazard based on known or supplied information.

Sensitization:

Product does not present a sensitization hazard based on known or supplied information.

Target organ effects:

Product does not present a target organ effects based on known or supplied information.

12. Ecological information

12.1 Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can make harmful or damaging effects on the environment.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available on bioaccumulation.

12.4 Other adverse effects

No data available.

13. Disposal consideration

13.1 Waste treatment methods

Waste from residues / unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

IMDG/IMO: Non-hazardous for sea freight.

RID: Non-hazardous for rail transport.

ARD: Non-hazardous for road transport.

ICAO/IATA: Non-hazardous for air transport.

15. Regulatory information

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

No information available.

15.2 Chemical safety assessment

No information available.

15.3 Regulatory information

US :

Labelling according to US Regulations: Caution: Avoid contact and inhalation.

US Regulatory information: SARA LISTED: No.

EU :

Labelling according to EU Guidelines: The preparation is not dangerous within the meaning of Directives 1272/2008/EC, and is not labelled with danger symbols or indications of danger.

Canada :

WHMIS classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No.

NDSL: No.

16. Other information

16.1 Full text of R-phrases referred to under sections 3

R36/37/38 - Irritating to eyes, respiratory system and skin

16.2 Hazard Ratings

	Health Hazard	Fire Hazard	Instability	Special Hazard
NFPA	2	2	0	0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

NFPA Label colored diamond code: Blue - Health; Red - Flammability; Yellow - Instability; White - Special Hazards

	Health Hazard	Flammability	Physical Hazard	Personal Protection
HMIS	2	2	0	B

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe *- Chronic Health Effect

Personal Protection codes: B - Safety Glasses, Gloves

HMIS Label colored bar code: Blue - Health; Red - Flammability; Orange - Physical Hazards; White - Special

The above information is believed to be correct but does not purport to be all-inclusive



SAFETY DATA SHEET

Printed : 11/1/2024

Revised : 10/28/2024

and shall be used only as a guide. The company shall not be held liable for any damage resulting from handling or from contact with the above product.