# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

**Revision date** 04-Oct-2022 **Revision Number** 1

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

### 1.1. Product identifier

**Product Name** 2-D SDS-PAGE Standards

**Catalogue Number(s)** 1610320, 1610320EDU

**Pure substance/mixture** Mixture

Contains 2-Mercaptoethanol

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

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

**Corporate Headquarters**
Bio-Rad Laboratories Inc.
1000 Alfred Nobel Drive
Hercules, CA 94547
USA

**Manufacturer**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
USA

**Legal Entity / Contact Address**
Bio-Rad Laboratories Ltd
The Junction
Station Road
Watford, WD17 1ET
UK

For further information, please contact

**Technical Service** 00800 00246 723
Techsupport.UK@bio-rad.com

### 1.4. Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC UK: 44-870-8200418

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

| | |
|---|---|
| **Acute toxicity - Dermal** | Category 4 - (H312) |
| **Serious eye damage/eye irritation** | Category 1 - (H318) |
| **Skin sensitization** | Category 1A - (H317) |
| **Chronic aquatic toxicity** | Category 3 - (H412) |

### 2.2. Label elements

Contains 2-Mercaptoethanol

**Signal word**
Danger

**Hazard statements**
H312 - Harmful in contact with skin
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H412 - Harmful to aquatic life with long lasting effects

**Precautionary statements**
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P310 - Immediately call a POISON CENTER or doctor
P501 - Dispose of contents/ container to an approved waste disposal plant
P280 - Wear protective gloves/protective clothing/eye protection/face protection

### 2.3. Other hazards

Contains animal source material. (Cattle). Causes mild skin irritation.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical name | Weight-% | EC No | UK REACH registration number | Classification according to GB CLP (SI 2020/1567 as amended) | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|---|---|---|---|---|---|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | 0 - 10% | 200-289-5 | - | - | - | - | - |
| Ethyl acrylate<br>140-88-5 | 0 - 10% | 205-438-8 | - | Flam. Liq. 2 (H225)<br>Acute Tox. 4 (H302)<br>Acute Tox. 4 (H312)<br>Acute Tox. 4 (H332)<br>Skin Irrit. 2 (H315)<br>Eye Irrit. 2 (H319)<br>Skin Sens. 1 (H317)<br>STOT SE 3 (H335) | - | - | - |
| Sodium azide | 0 - 10% | 247-852-1 | - | (EUH032) | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 26628-22-8 | | | | Acute Tox. 2 (H300) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | | | |

**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

**General advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Inhalation** Remove to fresh air. Get medical attention immediately if symptoms occur.

**Eye contact** Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

**Skin contact** Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. If symptoms persist, call a physician.

**Ingestion** Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid contact with skin, eyes or clothing.

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

**Symptoms** Burning sensation. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

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

**Note to physicians** May cause sensitization in susceptible persons. 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.

**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.

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

**Specific hazards arising from the chemical** Product is or contains a sensitizer. May cause sensitization by skin contact.

### 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 protection equipment. |

## SECTION 6: Accidental release measures

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

| | |
|---|---|
| **Personal precautions** | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| **Other information** | Refer to protective measures listed in Sections 7 and 8. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

### 6.2. Environmental precautions

| | |
|---|---|
| **Environmental precautions** | Prevent further leakage or spillage if safe to do so. |

### 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** | Take up mechanically, placing in appropriate containers for disposal. |
| **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. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. |
| **General hygiene considerations** | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. |

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

| | |
|---|---|
| **Storage Conditions** | Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions. |

### 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**

| Chemical name | United Kingdom |
|---|---|
| 1,2,3-Propanetriol<br>56-81-5 | TWA: 10 mg/m³<br>STEL: 30 mg/m³ |
| Ethyl acrylate<br>140-88-5 | TWA: 5 ppm<br>TWA: 21 mg/m³<br>STEL: 10 ppm<br>STEL: 42 mg/m³ |
| Sodium azide<br>26628-22-8 | TWA: 0.1 mg/m³<br>STEL: 0.3 mg/m³<br>Sk* |

**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)** 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** Tight sealing safety goggles.

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**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.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | aqueous solution |
| **Colour** | white |
| **Odour** | Odourless. |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | > 100 °C | |
| **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 | |
| **Flash point** | No data available | None known |
| **Autoignition temperature** | No data available | None known |

| | | |
|---|---|---|
| **Decomposition temperature** | | None known |
| **pH** | 8.4 | |
| **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** | Miscible in water | |
| **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 | |
| **Vapour density** | No data available | None known |
| **Particle characteristics** | | |
| **Particle Size** | No information available | |
| **Particle Size Distribution** | 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** Avoid contact with metals. This product contains Sodium azide. Sodium azide can react with Copper, Brass, Lead, and solder in piping systems to form explosive compounds and toxic gases.

**10.4. Conditions to avoid**

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

**10.5. Incompatible materials**

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents. Metals.

**10.6. Hazardous decomposition products**

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

## SECTION 11: Toxicological information

**11.1. Toxicological information**

**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. Causes serious eye damage.

May cause irreversible damage to eyes.

**Skin contact** Specific test data for the substance or mixture is not available. May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May be absorbed through the skin in harmful amounts. Causes mild skin irritation. Harmful in contact with skin.

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. Burning. May cause blindness. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

**Acute toxicity**

**Numerical measures of toxicity**

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (oral)** 4,248.20 mg/kg
**ATEmix (dermal)** 1,346.60 mg/kg
**ATEmix (inhalation-vapor)** 24.60 mg/l

**Unknown acute toxicity**

47.34001 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| 1,2,3-Propanetriol | = 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit ) | > 2.75 mg/L ( Rat ) 4 h |
| Ethyl acrylate | = 550 mg/kg ( Rat ) | = 1790 mg/kg ( Rabbit ) | = 1410 ppm ( Rat ) 4 h |
| Sodium azide | = 27 mg/kg ( Rat ) | = 20 mg/kg ( Rabbit ) | 0.054 - 0.52 mg/L ( Rat ) 4 h |

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

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes mild skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**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.

**Other adverse effects** No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

**Unknown aquatic toxicity** Contains 1E-05 % of components with unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| 1,2,3-Propanetriol | - | LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss) | - | - |
| Ethyl acrylate | EC50: =48mg/L (72h, Desmodesmus subspicatus) | LC50: =4.6mg/L (96h, Oncorhynchus mykiss) LC50: 2.31 - 2.7mg/L (96h, Pimephales promelas) | - | EC50: =7.9mg/L (48h, Daphnia magna) |
| Sodium azide | - | LC50: =0.8mg/L (96h, Oncorhynchus mykiss) LC50: =0.7mg/L (96h, Lepomis macrochirus) LC50: =5.46mg/L (96h, Pimephales promelas) | - | - |

### 12.2. Persistence and degradability

**Persistence and degradability** No information available.

### 12.3. Bioaccumulative potential

**Bioaccumulation**

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| 1,2,3-Propanetriol | -1.75 |
| Ethyl acrylate | 1.18 |

### 12.4. Mobility in soil

**Mobility in soil** No information available.

### 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment**

| Chemical name | PBT and vPvB assessment |
|---|---|
| 1,2,3-Propanetriol | The substance is not PBT / vPvB |
| Ethyl acrylate | The substance is not PBT / vPvB |
| Sodium azide | The substance is not PBT / vPvB PBT assessment does not apply |

### 12.6. Endocrine disrupting properties

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. Flush pipes with water frequently if discarding solutions containing Sodium azide into metal piping systems. |
| **Contaminated packaging** | Do not reuse empty containers. |

## SECTION 14: Transport information

**IATA**

| | |
|---|---|
| **14.1 UN number or ID number** | UN2810 |
| **14.2 UN proper shipping name** | Toxic liquid, organic, n.o.s. (Ethyl acrylate, Sodium azide) |
| **14.3 Transport hazard class(es)** | 6.1 |
| **14.4 Packing group** | III |
| **Description** | UN2810, Toxic liquid, organic, n.o.s. (Ethyl acrylate, Sodium azide), 6.1, III |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special Precautions for Users** | |
| **Special Provisions** | A3, A4, A137 |

**IMDG**

| | |
|---|---|
| **14.1 UN number or ID number** | UN2810 |
| **14.2 UN proper shipping name** | TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide) |
| **14.3 Transport hazard class(es)** | 6.1 |
| **14.4 Packing group** | III |
| **Description** | UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special Precautions for Users** | |
| **Special Provisions** | 223, 274 |
| **EmS-No** | F-A, S-A |
| **14.7 Maritime transport in bulk according to IMO instruments** | No information available |

**RID**

| | |
|---|---|
| **14.1 UN number** | UN2810 |
| **14.2 UN proper shipping name** | TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide) |
| **14.3 Transport hazard class(es)** | 6.1 |
| **14.4 Packing group** | III |
| **Description** | UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special Precautions for Users** | |
| **Special Provisions** | 274, 614 |
| **Classification code** | T1 |

**ADR**

| | |
|---|---|
| **14.1 UN number or ID number** | 2810 |
| **14.2 UN proper shipping name** | TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide) |
| **14.3 Transport hazard class(es)** | 6.1 |
| **14.4 Packing group** | III |
| **Description** | 2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III |
| **14.5 Environmental hazards** | Not applicable |
| **14.6 Special Precautions for Users** | |
| **Special Provisions** | 274, 614 |
| **Classification code** | T1 |
| **Tunnel restriction code** | (E) |

## SECTION 15: Regulatory information

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

**National regulations**

**Authorizations and/or restrictions on use:**
This product does not contain substances subject to authorization (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 Regulations 2015 (as amended)**
Not applicable

**The Ozone-Depleting Substances Regulations 2015**
Not applicable

**The Biocidal Products Regulations 2001 (as amended)**
Not applicable

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

**Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)**
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**

**Full text of H-Statements referred to under section 3**
EUH032 - Contact with acids liberates very toxic gas
H225 - Highly flammable liquid and vapor
H300 - Fatal if swallowed
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

**Legend**
SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

\+ Sensitisers

| Classification procedure | |
|---|---|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | 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 |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration hazard | Calculation method |
| Ozone | Calculation method |

**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)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
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

**Revision date** 04-Oct-2022

**Revision Note** Reformatted and updated existing information

**This material safety data sheet 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, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**