

SAFETY DATA SHEET



Revision date 04-Oct-2022

Revision Number 1.1

1. Identification

Product identifier

Product Name 2-D SDS-PAGE Standards

Other means of identification

Catalog Number(s) 1610320, 1610320EDU
UN/ID no UN2810

Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

Details of the supplier of the safety data sheet

Corporate Headquarters

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

Manufacturer Address

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

Legal Entity / Contact Address

Bio-Rad Laboratories
Life Science
2000 Alfred Nobel Drive
Hercules, California 94547

Technical Service 1-800-424-6723
support@bio-rad.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC USA: 1 (800) 424-9300

2. Hazard(s) identification

Classification

| | |
|--|-------------|
| Acute toxicity - Dermal | Category 4 |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1A |
| Specific target organ toxicity (repeated exposure) | Category 2 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful in contact with skin
Causes serious eye damage
May cause an allergic skin reaction
May cause damage to organs through prolonged or repeated exposure

**Appearance** aqueous solution**Physical state** Liquid**Odor** Odorless**Precautionary Statements - Prevention**

Contaminated work clothing must not be allowed out of the workplace
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor
 IF ON SKIN: Wash with plenty of water and soap
 Call a POISON CENTER or doctor if you feel unwell
 Take off contaminated clothing and wash it before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Unknown acute toxicity

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

Other information

Contains animal source material. (Cattle). May be harmful if swallowed. Causes mild skin irritation. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

| Chemical name | CAS No | Weight-% | Trade secret |
|-------------------|---------|----------|--------------|
| 2-Mercaptoethanol | 60-24-2 | 2.5 - 5 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

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 advice/attention. Rinse immediately with plenty of water, also under

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| | 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. |

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

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| Note to physicians | May cause sensitization in susceptible persons. Treat symptomatically. |
|---------------------------|--|

5. Fire-fighting measures

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|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Specific hazards arising from the chemical | Product is or contains a sensitizer. May cause sensitization by skin contact. |
| Explosion data | |
| Sensitivity to mechanical impact | None. |
| Sensitivity to static discharge | None. |
| Special protective equipment and precautions for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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|-----------------------------|--|
| 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. |

Methods and material for containment and cleaning up

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| 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. |

7. Handling and storage

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.

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.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls**Engineering controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as 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.

9. Physical and chemical properties**Information on basic physical and chemical properties****Physical state**

Liquid

Appearance

aqueous solution

Color

white

Odor

Odorless

Odor threshold

No information available

Property**Values****Remarks • Method****pH**

8.4

None known

Melting point / freezing point

No data available

Boiling point / boiling range

> 100 °C / 212 °F

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 | Miscible in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Other information | | |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |
| 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 | |

10. Stability and reactivity

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|------------------------------------|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| 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. |
| Conditions to avoid | None known based on information supplied. |
| Incompatible materials | Strong acids. Strong bases. Strong oxidizing agents. Metals. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

Product Information

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|--------------|---|
| 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. May be harmful if swallowed. |

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 |
|------------------------------|---------------------|----------------------------|-----------------|
| 2-Mercaptoethanol 60-24-2 | = 244 mg/kg (Rat) | 112 - 224 mg/kg (Rabbit) | - |

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 May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|------------------------------|--|------|----------------------------|--------------------------------------|
| 2-Mercaptoethanol 60-24-2 | EC50: =12mg/L (72h, Desmodesmus subspicatus) | - | - | EC50: =1.52mg/L (48h, Daphnia magna) |

Persistence and degradability No information available.

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|------------------------------|-----------------------|
| 2-Mercaptoethanol 60-24-2 | -0.056 |

Other adverse effects No information available.

13. Disposal considerations

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.

14. Transport information

DOT

UN/ID no UN2810
Proper shipping name TOXIC LIQUIDS, ORGANIC, N.O.S.
Transport hazard class(es) 6.1
Packing group III
Special Provisions IB3, T7, TP1, TP28
DOT Marine Pollutant NP
Description UN2810, TOXIC LIQUIDS, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III
Emergency Response Guide Number 153

TDG

UN/ID no UN2810
Proper shipping name TOXIC LIQUID, ORGANIC, N.O.S.
Transport hazard class(es) 6.1
Packing group III
Special Provisions 16
Description UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III

MEX

UN/ID no UN2810
Proper shipping name TOXIC LIQUID, ORGANIC, N.O.S.
Transport hazard class(es) 6.1
Packing group III
MEX Technical Name Ethyl acrylate, Sodium azide

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|---------------------------|--|
| Description | UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III |
| Special Provisions | 223, 274 |

IATA

| | |
|-----------------------------------|--|
| UN number or ID number | UN2810 |
| UN proper shipping name | Toxic liquid, organic, n.o.s. |
| Transport hazard class(es) | 6.1 |
| Packing group | III |
| IATA Technical Name | Ethyl acrylate, Sodium azide |
| Description | UN2810, Toxic liquid, organic, n.o.s. (Ethyl acrylate, Sodium azide), 6.1, III |
| Special Provisions | A3, A4, A137 |

IMDG

| | |
|-----------------------------------|--|
| UN number or ID number | UN2810 |
| UN proper shipping name | TOXIC LIQUID, ORGANIC, N.O.S. |
| Transport hazard class(es) | 6.1 |
| Packing group | III |
| EmS-No | F-A, S-A |
| Special Provisions | 223, 274 |
| Marine pollutant | NP |
| Description | UN2810, TOXIC LIQUID, ORGANIC, N.O.S. (Ethyl acrylate, Sodium azide), 6.1, III |

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| 15. Regulatory information |
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International Inventories Contact supplier for inventory compliance status

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:.

| Chemical name | California Proposition 65 |
|---------------------------|---------------------------|
| Ethyl acrylate - 140-88-5 | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
|---------------|------------|---------------|--------------|

| | | | |
|-------------------------------|---|---|---|
| Water 7732-18-5 | - | - | X |
| 2-Mercaptoethanol 60-24-2 | X | X | X |
| 1,2,3-Propanetriol 56-81-5 | X | X | X |
| Ethyl acrylate 140-88-5 | X | X | X |
| Sodium azide 26628-22-8 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|-------------|---------------------------|-----------------------|---------------------------|------------------------------|
| NFPA | Health hazards 3 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards 3 * | Flammability 0 | Physical hazards 0 | Personal protection X |

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 |

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

Revision date 04-Oct-2022

Revision Note Reformatted and updated existing information.

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