



# SAFETY DATA SHEET

Revision date 10-Aug-2022

Revision Number 3

## 1. Identification

### Product identifier

**Product Name** 40% Acrylamide/Bis Solution, 29:1

### Other means of identification

**Catalog Number(s)** 1610146, 1610147, 1610147EDU, 1610146EDU, 9703330

**UN/ID no** UN3426

### Recommended use of the chemical and restrictions on use

**Recommended use** Laboratory chemicals

**Restrictions on use** No information available

### 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 (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, ON L5T 1C9  
Canada

**Technical Service** 1-800-361-1808  
support@bio-rad.com

### Emergency telephone number

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

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

### Label elements

#### **Danger**

#### **Hazard statements**

Harmful if swallowed

Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
May cause genetic defects  
May cause cancer  
May damage fertility or the unborn child  
Causes damage to organs  
Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Contaminated work clothing should not be allowed out of the workplace  
Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
IF exposed or concerned: Call a POISON CENTER or doctor

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap  
Take off contaminated clothing and wash it before reuse  
If skin irritation or rash occurs: Get medical advice/attention

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor if you feel unwell

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth

**Precautionary Statements - Disposal**

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

**Other information**

May be harmful in contact with skin. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

**Unknown acute toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
1.3 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Acrylamide	79-06-1	30 - 60	-	
Methylene diacrylamide	110-26-9	1 - 5	-	

### 4. First-aid measures

#### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
<b>Skin contact</b>	May cause an allergic skin reaction. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

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

<b>Symptoms</b>	Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
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#### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	May cause sensitization in susceptible persons. Treat symptomatically.
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### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.

**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 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

**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. Avoid breathing vapors or mists.

**Other information** Refer to protective measures listed in Sections 7 and 8.

### 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.

## 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. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes. Avoid breathing vapors or mists.

### Conditions for safe storage, including any incompatibilities

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

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	Alberta	British Columbia	Ontario	Quebec
Acrylamide 79-06-1	TWA: 0.03 mg/m <sup>3</sup> Skin	TWA: 0.03 mg/m <sup>3</sup> Skin Dermal Sensitizer	TWA: 0.03 mg/m <sup>3</sup> Skin	TWA: 0.03 mg/m <sup>3</sup> Skin

### Appropriate engineering controls

**Engineering controls** Showers

Eyewash stations  
Ventilation systems.

#### **Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

## **9. Physical and chemical properties**

### **Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	aqueous solution
<b>Color</b>	colorless
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>		None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	> 100 °C / 212 °F	
<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>	Miscible in water	
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### **Other information**

<b>Explosive properties</b>	Not applicable.
<b>Oxidizing properties</b>	Not applicable.
<b>Softening point</b>	Not applicable
<b>Molecular weight</b>	Not applicable
<b>VOC content</b>	Not applicable

## **10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Excessive heat.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
<b>Skin contact</b>	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

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

<b>Symptoms</b>	Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.
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### Acute toxicity

#### Numerical measures of toxicity

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

<b>ATEmix (oral)</b>	307.60 mg/kg
<b>ATEmix (dermal)</b>	2,753.20 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	3.88 mg/l

#### Unknown acute toxicity

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 1.3 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Acrylamide 79-06-1	= 124 mg/kg ( Rat )	= 1148 mg/kg ( Rabbit )	-
Methylene diacrylamide 110-26-9	= 390 mg/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	May cause sensitization by skin contact.
<b>Germ cell mutagenicity</b>	Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Acrylamide 79-06-1	A2	Group 2A	Reasonably Anticipated	X

#### Legend

##### ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

##### IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

##### NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

##### OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.
<b>STOT - single exposure</b>	Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Target organ effects</b>	Eyes, Skin, Central nervous system, Peripheral Nervous System (PNS), Reproductive system, Thyroid, Lungs.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## 12. Ecological information

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Acrylamide 79-06-1	-	LC50: 103 - 115mg/L (96h, Pimephales promelas) LC50: 137 - 191mg/L (96h, Oncorhynchus mykiss) LC50: 74 - 150mg/L (96h, Oncorhynchus mykiss) LC50: 81 - 150mg/L (96h, Lepomis macrochirus) LC50: =124mg/L (96h, Pimephales promelas)	-	EC50: =98mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical name	Partition coefficient
Acrylamide 79-06-1	-0.9
Methylene diacrylamide 110-26-9	-0.08

**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.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

#### TDG

UN/ID no UN3426  
 UN proper shipping name ACRYLAMIDE SOLUTION  
 Transport hazard class(es) 6.1  
 Packing group III  
 Description UN3426, ACRYLAMIDE SOLUTION, 6.1, III

#### DOT

UN/ID no UN3426  
 Extended proper shipping name ACRYLAMIDE SOLUTION  
 Transport hazard class(es) 6.1  
 Packing group III  
 Reportable Quantity (RQ) (Acrylamide: RQ (kg)= 2270.00)  
 Special Provisions IB3, T4, TP1  
 Description UN3426, ACRYLAMIDE SOLUTION, 6.1, III  
 Emergency Response Guide Number 153P

#### MEX

UN/ID no UN3426  
 UN proper shipping name ACRYLAMIDE SOLUTION  
 Transport hazard class(es) 6.1  
 Special Provisions 223  
 Packing group III  
 Description UN3426, ACRYLAMIDE SOLUTION, 6.1, III

#### IATA

UN number or ID number UN3426  
 UN proper shipping name Acrylamide solution  
 Transport hazard class(es) 6.1  
 Packing group III  
 ERG Code 6L  
 Special Provisions A3



**Description** UN3426, Acrylamide solution, 6.1, III

**IMDG**

**UN number or ID number** UN3426  
**UN proper shipping name** ACRYLAMIDE SOLUTION  
**Transport hazard class(es)** 6.1  
**Packing group** III  
**EmS-No** F-A, S-A  
**Special Provisions** 223  
**Marine pollutant** NP  
**Description** UN3426, ACRYLAMIDE SOLUTION, 6.1, III

**15. Regulatory information**

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

**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**

Contact supplier for inventory compliance status

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and chemical properties</b> -
<b>HMIS</b>	<b>Health hazards</b> * 3	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal protection</b> X
Chronic Hazard Star Legend	* = Chronic Health Hazard			

**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) (AELG(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)  
 Japan GHS Classification  
 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  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety.

**Revision date** 10-Aug-2022

**Revision Note** Significant changes throughout SDS. Review all sections.

**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**