Safety Data Sheet
acc. to OSHA HCS

Printing date 12/14/2022 Reviewed on 12/14/2022

*
1 Identification

· **Product identifier**

· **Trade name: Acrylamide/Bis Solution, 29:1**

· **Article number:** 10680
· **Application of the substance / the mixture:** Laboratory chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de

· **Information department:** Product Safety department Tel.: +49 6221 13840-35
· **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

*
2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08

Germ Cell Mutagenicity 1B	H340 May cause genetic defects.
Carcinogenicity 1B	H350 May cause cancer.
Toxic to Reproduction 2	H361 Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity - Repeated Exposure 1	H372 Causes damage to organs through prolonged or repeated exposure.

GHS07

Acute Toxicity - Oral 4	H302 Harmful if swallowed.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:** GHS07, GHS08
· **Signal word:** Danger

· **Hazard-determining components of labeling:**
acrylamide
N,N'-methylenediacrylamide
· **Hazard statements:**
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/14/2022 *Reviewed on 12/14/2022*

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 1)

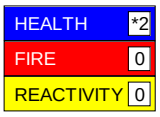
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
Obtain special instructions before use.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of soap and water.
Specific treatment (see on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Rinse mouth.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



*Health = *2*
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment:**
· **PBT:** *PBT - assessment not available.*
· **vPvB:** *vPvB - assessment not available.*

*
3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** *aqueous solution*

· **Dangerous components:**		
79-06-1	*acrylamide*	*20-40%*
110-26-9	*N,N'-methylenediacrylamide*	*2.5-7%*

· **Additional information:**
the product contains no further substances which shall be indicated according to REACH-Regulation (Regulation (EC) No. 1907/2006).
For the wording of the listed hazard phrases refer to section 16.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 2)

*
4 First-aid measures

· **Description of first aid measures**
· **General information:**
Take affected persons out into the fresh air.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air and to be sure call for a doctor.
· **After skin contact:**
Immediate wash with copious amounts of water and soap; rinse thoroughly; seek medical advice.
· **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist immediately.
· **After swallowing:**
Wash out mouth instantly. Drink copious amounts of water and provide fresh air. Call for doctor immediately.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

*
5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
In case of fire or if heated, pressure in the container increases and may burst.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Ammonia (NH_3)
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.
· **Additional information**
Collect contaminated fire fighting agent separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting media in accordance with official regulations.

*
6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with the eyes and skin.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
79-06-1	acrylamide	0.09 mg/m³
110-26-9	N,N'-methylenediacrylamide	0.64 mg/m³

· **PAC-2:**		
79-06-1	acrylamide	44 mg/m³

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

(Contd. of page 3)

110-26-9	N,N'-methylenediacrylamide	7.1 mg/m³

· **PAC-3:**

79-06-1	acrylamide	100 mg/m³
110-26-9	N,N'-methylenediacrylamide	77 mg/m³

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· **Precautions for safe handling:**
CAS 79-06-1 Acrylamide (20 - 40%), skin absorbable. Avoid contact with eyes and skin.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store at +2 to +8 °C
Store only in unopened original receptacles.
· **Information about storage in one common storage facility:** Do not store together with oxidizing materials.
· **Further information about storage conditions:**
Store under lock and key and with access restricted to technical experts or their assistants only.
Keep receptacle tightly sealed and store in dry conditions.
Protect from exposure to the light.
· **Specific end use(s):** No further relevant information available.

*
8 Exposure controls/personal protection

· **Control parameters**
DMELs
DMEL (Acrylamide, CAS No. 79-06-1) systemic long-term effects by inhalation: 0,07 mg/m³
DMEL (Acrylamide, CAS No. 79-06-1) systemic long-term effects , dermal: 0,1 mg/kg/day
· **Components with limit values that require monitoring at the workplace:**
no further relevant information available
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

79-06-1 acrylamide (20-40%)	
PEL	Long-term value: 0.3 mg/m³ Skin
REL	Long-term value: 0.03 mg/m³ Skin; See Pocket Guide App. A
TLV	Long-term value: 0.03* mg/m³ DSEN,Skin;*inhalable fraction and vapor, A2

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 4)

· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
· **Breathing equipment:**
Short term filter device:
Filter A/P3
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**
PVC gloves
Neoprene gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Protective gloves
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
PVC (0.5 mm) Butyl (0.5 mm)
max. 8 h
· **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material:**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
PVC gloves
Neoprene gloves
· **Eye protection:** Tightly sealed goggles
· **Body protection:** Protective work clothing

*
9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information:**

· **Color:**	Colorless
· **Odor:**	Characteristic
· **Odor threshold:**	no information available
· **Melting point/Melting range:**	no information available
· **Boiling point/Boiling range:**	no information available
· **Flammability (solid, gaseous):**	no information available
· **Explosion limits:**	
· **Lower:**	no information available
· **Upper:**	no information available
· **Flash point:**	no information available
· **Decomposition temperature:**	no information available
· **pH-value at 20 °C (68 °F):**	6-8

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 5)

· **Viscosity:**	
· **Kinematic viscosity:**	no information available
· **Dynamic viscosity:**	no information available
· **Solubility in / Miscibility with:**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	no information available
· **Vapor pressure:**	no information available
· **Density at 20 °C (68 °F):**	1.04 g/cm³ (8.6788 lbs/gal)
· **Relative density:**	no information available

· **Other information**	
· **Appearance:**	
· **Form:**	Solution
· **Important information on protection of health and environment, and on safety:**	
· **Danger of explosion:**	Product does not present an explosion hazard.
· **VOC %:**	
· **VOC content:**	0.00 %

*
10 Stability and reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions:**
Polymerizes at elevated temperatures and upon contact with polymerization initiators (e.g. UV light, oxidizing agents, acids, alkalis)
· **Conditions to avoid:**
high ttemperatures
exposure to the light
· **Incompatible materials:**
Avoid contact with:
Oxidizers, acids, bases
· **Hazardous decomposition products:** In case of fire: See Section 5

*
11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Harmful if swallowed.

· **LD/LC50 values that are relevant for classification:**

79-06-1 acrylamide

Oral	LD50	177 mg/kg (rat)
Dermal	LD50	1,141 mg/kg (rat)

· **on the skin:** Causes skin irritation.
· **on the eye:** Causes serious eye irritation.
· **Sensitization:** May cause an allergic skin reaction.
· **Germ cell mutagenicity:** May cause genetic defects.
· **Carcinogenicity:** May cause cancer.
· **Reproductive toxicity:** Suspected of damaging fertility or the unborn child.
· **Specific target organ toxicity - repeated exposure:**
Causes damage to organs through prolonged or repeated exposure.
· **Other information (about experimental toxicology)**
Acrylamide, EC Number: 201-173-7, CAS number: 79-06-1, is identified as a carcinogenic and mutagenic substance according to Article 57 (a) and (b) of Regulation (EC) No 1907/2006 (REACH).
This corresponds to a classification as carcinogen (1B) and mutagen (1B) in Annex VI, part 3, Table 3.1 of

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 6)

Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances).
(ECHA SVHC Support Document - Acrylamide; Page 2)

· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
79-06-1	acrylamide	2A

· **NTP (National Toxicology Program)**		
79-06-1	acrylamide	R

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

*
12 Ecological information

· **Toxicity:**
· **Aquatic toxicity:**
CAS 79-06-1 Acrylamide (20-40%), long-term toxicity to fish: NOEC (28 days) > 5 mg/l
CAS 79-06-1 Acrylamide (20 - 40%), toxicity to aquatic microorganisms: NOEC: 2 mg/l
· **Persistence and degradability:**
CAS 79-06-1 Acrylamide (20 - 40%), screening test (closed bottle test): approximate 100% biodegradable after 28 days.
CAS 79-06-1 Acrylamid (20 - 40%), easily biodegradable
CAS 110-26-9 N,N'-methylenebisacrylamide (2,5 - 7%); not readily biodegradable
· **Bioaccumulative potential:** No further relevant information available.
· **Mobility in soil:** No further relevant information available.
· **Results of PBT and vPvB assessment:**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:**
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 3 (Self-assessment): extremely hazardous for water

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

*
14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN3426
· **UN proper shipping name**	
· **DOT**	Acrylamide solution

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/14/2022 Reviewed on 12/14/2022

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 7)

· **ADR**	3426 ACRYLAMIDE SOLUTION
· **IMDG, IATA**	ACRYLAMIDE SOLUTION
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	6.1 Toxic substances
· **Label**	6.1
· **ADR, IMDG, IATA**	

· **Class:**	6.1 Toxic substances
· **Label:**	6.1
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Toxic substances
· **Hazard identification number (Kemler code):**	60
· **EMS Number:**	F-A,S-A
· **Stowage Category**	A
· **Stowage Code**	SW1 Protected from sources of heat.
· **Handling Code**	H2 Keep as cool as reasonably practicable
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 3426 ACRYLAMIDE SOLUTION, 6.1, III

*
15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**	
79-06-1	acrylamide

· **Section 313 (Specific toxic chemical listings):**	
79-06-1	acrylamide

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 8)

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**

79-06-1	acrylamide

· **Proposition 65**
None of the ingredients is listed.

· **Chemicals known to cause cancer:**

79-06-1	acrylamide

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

79-06-1	acrylamide

· **Chemicals known to cause developmental toxicity:**

79-06-1	acrylamide

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

79-06-1	acrylamide	L

· **TLV (Threshold Limit Value)**

79-06-1	acrylamide	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

79-06-1	acrylamide

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS07, GHS08
· **Signal word** Danger

· **Hazard-determining components of labeling:**
acrylamide
N,N'-methylenediacrylamide
· **Hazard statements**
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Obtain special instructions before use.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of soap and water.
Specific treatment (see on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Rinse mouth.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Acrylamide/Bis Solution, 29:1

(Contd. of page 9)

If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

*
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** *Product safety department*
· **Contact:** *+49 6221 13840-35*
· **Date of preparation / last revision** *12/14/2022*
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
PBT: persistent, bioaccumulative, toxic substance (REACH)
vPvB: very persistent, very bioaccumulative substance (REACH)
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Regulation on classification, labelling and packaging of substances and mixtures
bw: body weight
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Sensitization - Skin 1: Skin sensitisation – Category 1
Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B
Carcinogenicity 1B: Carcinogenicity – Category 1B
Toxic to Reproduction 2: Reproductive toxicity – Category 2
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1