

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/27/2020

Reviewed on 09/11/2018

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)

SERVA
■ serving scientists ■

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08

- Muta. 1B H340 May cause genetic defects.
- Carc. 1B H350 May cause cancer.
- Repr. 2 H361 Suspected of damaging fertility or the unborn child.
- STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Skin Sens. 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.

May cause an allergic skin reaction.

May cause genetic defects.

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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:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

79-06-1	acrylamide	20-40%
110-26-9	N,N'-methylene diacrylamide	2.5-7%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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.

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In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

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.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Wash out mouth instantly. Drink copious amounts of water and provide fresh air. Call for doctor immediately.

Do not induce vomiting; immediately call for medical help.

· **Information for doctor:**

· **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:**

CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Mouth respiratory protective device.

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.

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· **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.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

79-06-1	acrylamide	0.09 mg/m ³
110-26-9	N,N'-methylenediacrylamide	0.64 mg/m ³

· **PAC-2:**

79-06-1	acrylamide	44 mg/m ³
110-26-9	N,N'-methylenediacrylamide	7.1 mg/m ³

· **PAC-3:**

79-06-1	acrylamide	100 mg/m ³
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110-26-9 N,N'-methylenediacrylamide

77 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
The product is not flammable.
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.
Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **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/m ³ Skin
REL	Long-term value: 0.03 mg/m ³ Skin; See Pocket Guide App. A
TLV	Long-term value: 0.03* mg/m ³ NIC-A2,NIC-DSEN,Skin;*inhalable fraction and vapor

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

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· **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

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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 through 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**

· **Appearance:**

Form: Solution

Color: Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** 6-8

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

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· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.04 g/cm ³ (8.6788 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 %
Solids content:	40.0 %
· Other information	No further relevant information available.

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** No further relevant informations available.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
No further relevant informations available.
In case of fire: See Section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **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)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **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 Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances).
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· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic

Harmful

Irritant

Carcinogenic.

The product can cause inheritable damage.

· **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:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Water hazard class 3 (Self-assessment): extremely hazardous for water

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

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

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<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	<p>Acrylamide solution 3426 ACRYLAMIDE SOLUTION ACRYLAMIDE SOLUTION</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	
<ul style="list-style-type: none"> · Class · Label 	<p>6.1 Toxic substances 6.1</p>
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	
<ul style="list-style-type: none"> · Class · Label 	<p>6.1 Toxic substances 6.1</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p>III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p>No</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code · Handling Code 	<p>Warning: Toxic substances 60 F-A,S-A A SW1 Protected from sources of heat. H2 Keep as cool as reasonably practicable</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p>Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 3426 ACRYLAMIDE SOLUTION, 6.1, III</p>

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

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

· 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

· Carcinogenicity categories		
· EPA (Environmental Protection Agency)		
79-06-1	acrylamide	L

· TLV (Threshold Limit Value established by ACGIH)		
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.	

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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.

· **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** 02/27/2020 / 5

· **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 européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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 Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1B: Carcinogenicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· *** Data compared to the previous version altered.**