

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/27/2022

Reviewed on 10/27/2022

## 1 Identification

- **Product identifier**
- **Trade name:** Acrylamide
- **Article number:** 10674, 10675, 10678
- **CAS Number:**  
79-06-1
- **EC number:**  
201-173-7
- **Index number:**  
616-003-00-0
- **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**



GHS06

Acute Toxicity - Oral 3

H301 Toxic if swallowed.



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 - Dermal 4

H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4

H332 Harmful if inhaled.

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.

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- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** GHS06, GHS07, GHS08

- **Signal word:** Danger

- **Hazard statements:**

Toxic if swallowed.

Harmful in contact with skin or if inhaled.

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.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 3

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: Substances**

- **CAS No. Description:**

79-06-1 acrylamide

- **Identification number(s):**

· **EC number:** 201-173-7

· **Index number:** 616-003-00-0

- **Description:**

· **Empirical formula:**  $C_3H_5NO$

· **MW:** 71.1

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## 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Take affected persons out of danger area and lay down.

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.

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

- **After inhalation:** Supply fresh air and to be sure call for a doctor.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.

- **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 In case of complaints.

- **After swallowing:**

Wash out mouth. Call a doctor immediately.

Do not induce vomiting!

- **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<sub>2</sub> 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 strong heating formation of acrid smoke and fumes.

In case of fire, the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide and carbon dioxide

- **Advice for firefighters**

- **Protective equipment:** Wear self-contained 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.

Pick up mechanically.

- **Protective Action Criteria for Chemicals**

- **PAC-1:** 0.09 mg/m<sup>3</sup>

- **PAC-2:** 44 mg/m<sup>3</sup>

- **PAC-3:** 100 mg/m<sup>3</sup>

- **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.

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## 7 Handling and storage

### · Precautions for safe handling:

- Work only in fume cabinet.
- Ensure cleanliness at the workplace.
- Restrict the quantity stored at the work place.
- Residues sublime easily. Do not inhale vapours.
- Thorough dedusting.
- 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 only in the original receptacle.
- Store at +2 to +8 °C

#### · Information about storage in one common storage facility: Store away from oxidizing agents.

#### · 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 other specific uses as mentioned in section 1.2..

## 8 Exposure controls/personal protection

### · Control parameters

- DMEL systemic long-term effects by inhalation: 0,07 mg/m<sup>3</sup>
- DMEL 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

#### 79-06-1 acrylamide (80-100%)

PEL	Long-term value: 0.3 mg/m <sup>3</sup> Skin
REL	Long-term value: 0.03 mg/m <sup>3</sup> Skin; See Pocket Guide App. A
TLV	Long-term value: 0.03* mg/m <sup>3</sup> DSEN,Skin;*inhalable fraction and vapor, A2

### · Additional information:

- skin absorbable
- 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.

#### · Personal protective equipment:

#### · General protective and hygienic measures:

- Collect residual Acrylamide separately.
- Disposal considerations see section 13.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

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- **Breathing equipment:**

Short term filter device:

Filter 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

Internal tests have shown that some rubber gloves may be subject to permeability to acrylamide. We suggest using 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

- **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.

- **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

- **Limitation and supervision of exposure into the environment**

Ecological informations see section 12.

Do not exceed PNEC.

\*

## 9 Physical and chemical properties

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

- **General Information:**

- **Color:**

White

- **Odor:**

Odorless

- **Odor threshold:**

Not determined.

- **Melting point/Melting range:**

84-85 °C (183.2-185 °F)

- **Boiling point/Boiling range:**

polymerizes below boiling point.

- **Flammability (solid, gaseous):**

no information available

- **Explosion limits:**

- **Lower:**

Not determined.

- **Upper:**

Not determined.

- **Flash point:**

not applicable: solid, polymerizes below boiling point.

- **Decomposition temperature:**

no information available

- **pH-value:**

5-8

- **Viscosity:**

- **Kinematic viscosity:**

Not applicable.

- **Dynamic viscosity:**

Not applicable.

- **Solubility in / Miscibility with:**

- **Water at 25 °C (77 °F):**

2040 g/l

- **Partition coefficient (n-octanol/water):**

Not determined.

- **Vapor pressure at 25 °C (77 °F):**

0.009 hPa (0 mm Hg)

- **Density at 20 °C (68 °F):**

1.02 g/cm<sup>3</sup> (8.5119 lbs/gal)

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- **Relative density:** Not determined.
- **Other information**
- **Appearance:**
- **Form:** Crystalline
- **Important information on protection of health and environment, and on safety:**
- **Danger of explosion:** Product does not present an explosion hazard.
- **Molecular weight** 71.1 g/mol

## 10 Stability and reactivity

- **Reactivity:** No further relevant informations available
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** polymerizes when heated.
- **Possibility of hazardous reactions:**  
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.  
Exothermic polymerization.  
Reacts with oxidizing agents.
- **Conditions to avoid:**  
high temperatures  
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:**  
Toxic if swallowed.  
Harmful in contact with skin or if inhaled.
- **LD/LC50 values that are relevant for classification:**

Oral	LD50	177 mg/kg (rat)
Dermal	LD50	1,141 mg/kg (rat)
- **on the skin:** Causes skin irritation.
- **on the eye:**  
Eye irritant because of test results according to OECD TG 405.  
Causes serious eye irritation.
- **Sensitization:**  
Skin sensitizer because of test results according to OECD TG 406.  
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 Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances).  
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STOT RE: long-term toxicity (OECD TG 453, two-year study, rat, oral) NOAEL: 0,5 mg/kg bw/d

STOT SE: no specific effects known.

Asp. Tox.: effects not expected/ known.

- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer) 2A**

- **NTP (National Toxicology Program) R**

- **OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.**

## 12 Ecological information

- **Toxicity:**

- **Aquatic toxicity:**

Acute toxicity to fish: LC50/96h: 180 mg/l (oncorhynchus mykiss)

Long-term toxicity to fish: NOEC: &gt;5 mg/l (28 d)

Acute toxicity to daphnia magna: NOEC: 60 mg/l 48h (behaviour)

Toxicity to algae: IC50: 33,8 mg/l 72h (biomass)

Toxicity to aquatic microorganisms: NOEC: 2 mg/l

- **Persistence and degradability:**

Easily biodegradable

Screening Test (closed bottle test): approximate 100% biodegradable after 28 days.

- **Bioaccumulative potential:** No relevant bioaccumulation is expected because of log Pow = -0,9.

- **Mobility in soil:** No accumulation is expected in soils because of log Pow < 1 and its high water solubility.

- **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 (Assessment by list): 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**

UN2074

- **UN proper shipping name**

- **DOT**

Acrylamide, solid

- **ADR**

2074 ACRYLAMIDE, SOLID

- **IMDG, IATA**

ACRYLAMIDE, SOLID

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· **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:**· **DOT**· **Remarks:**

Lösung: EmS 6.1-02

· **ADR**· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **IMDG**· **Limited quantities (LQ)**

5 kg

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":**

UN 2074 ACRYLAMIDE, SOLID, 6.1, III

## \* 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Section 355 (extremely hazardous substances):** Substance is listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is listed.
- **Proposition 65** Substance is not listed.

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- **Chemicals known to cause cancer:** Substance is listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is listed.
- **Chemicals known to cause developmental toxicity:** Substance is listed.
- **Cancerogenity categories**
- **EPA (Environmental Protection Agency) L**
- **TLV (Threshold Limit Value) A3**
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS06, GHS07, GHS08
- **Signal word** Danger
- **Hazard statements**  
Toxic if swallowed.  
Harmful in contact with skin or if inhaled.  
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.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a poison center/doctor.  
If on skin: Wash with plenty of water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.
- **National regulations:**
- **Information about limitation of use:**  
Workers are not allowed to be exposed to this hazardous material. 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** 10/27/2022
- **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  
SVHC: Substance of Very High Concern (REACH)  
DMEL: Derived Minimal Effect Level  
NOAEL: No observed adverse effect level  
NOEC: no observed effect level concentration  
PBT: persistent, bioaccumulative, toxic substance (REACH)  
vPvB: very persistent, very bioaccumulative substance (REACH)  
IC50: inhibitory concentration, 50 percent  
EC50: effective concentration, 50 percent  
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
CLP: Regulation on classification, labelling and packaging of substances and mixtures

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*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**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**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 3: Acute toxicity – Category 3**Acute Toxicity - Dermal 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*

US