

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 16.11.2018

Version number 2

Revision: 30.08.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name: Acrylamide
- Synonyma 2-Propenamide



- Article number: 10674, 10675, 10678

- CAS Number:
79-06-1

- EC number:
201-173-7

- Index number:
616-003-00-0

- Registration number 01-2119463260-48

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Sector of Use SU24 Scientific research and development

Product category

PC19 Intermediate

PC21 Laboratory chemicals

Process category

PROC15 Use as laboratory reagent

PROC 0: Other: Monomer for polymerisation

- Environmental release category ERC 0: Other: Laboratory Use

- Application of the substance / the mixture Laboratory chemicals

1.3 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

1.4 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)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008



GHS06

Acute Tox. 3 H301 Toxic if swallowed.



GHS08

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 2 H361f Suspected of damaging fertility.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

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GHS07

Acute Tox. 4 H312 Harmful in contact with skin.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS06, GHS08

· **Signal word** Danger

· **Hazard statements**

H301 Toxic if swallowed.
 H312+H332 Harmful in contact with skin or if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H361f Suspected of damaging fertility.
 H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P201 Obtain special instructions before use.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **Labelling of packages where the contents do not exceed 125 ml**

· **Hazard pictograms** GHS06, GHS08

· **Signal word** Danger

· **Hazard statements**

H301 Toxic if swallowed.
 H317 May cause an allergic skin reaction.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H361 Suspected of damaging fertility or the unborn child.
 H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

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SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: 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:** C₃H₅N O

· **MW:** 71.1

· **SVHC**

79-06-1	acrylamide
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SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information**

Take affected persons out of danger area and lay down.

Remove contaminated clothing.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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!

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

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

· **5.2 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 formed, but not limited to:

Nitrogen oxides (NOx)

Carbon monoxide and carbon dioxide

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

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*Ensure adequate ventilation**Avoid contact with the eyes and skin.*

- **6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

- **6.3 Methods and material for containment and cleaning up:**

*Pick up mechanically.**Dispose contaminated material as waste according to item 13.*

- **6.4 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.*

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

*Work only in fume cupboard.**Ensure cleanliness at the workplace.**Restrict the quantity stored at the work place.**Residues sublime easily. Do not inhale vapours.**Thorough dedusting.**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.*

- **7.2 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 oxidising 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.*

- **7.3 Specific end use(s)** *No other specific uses as mentioned in section 1.2..*

SECTION 8: Exposure controls/personal protection

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

- **8.1 Control parameters**

*DMEL systemic long-term effects by inhalation: 0,07 mg/m³**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%)

WEL Long-term value: 0.3 mg/m³

Carc; Sk

- **PNECs**

*PNEC fresh water for permanent discharge: 0,03 mg/l**PNEC fresh water for occasional discharge: 0,3 mg/l**PNEC sewage treatment plant: 0,2 mg/l*

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- **8.2 Exposure controls**
- **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.
- **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.
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
- **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.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Crystalline
Colour:	White
Odour:	Odourless
Odour threshold:	Not determined.
- **pH-value (50 g/l) at 20 °C:** 5.0 - 8.0
- **Change in condition**

Melting point/freezing point:	84 - 85 °C
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Initial boiling point and boiling range:	<i>polymerizes below boiling point.</i>
· Flash point:	<i>not applicable: solid, polymerizes below boiling point.</i>
· Flammability (solid, gaseous)	<i>Product is not flammable.</i>
· Decomposition temperature:	<i>Not determined.</i>
· Self igniting:	<i>Not determined.</i>
· Explosive properties:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapour pressure at 25 °C:	<i>0.009 hPa</i>
· Density at 20 °C:	<i>1.02 g/cm³</i>
· Bulk density at 20 °C:	<i>ca. 500 kg/m³</i>
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not applicable.</i>
· Evaporation rate	<i>Not applicable.</i>
· Solubility in / Miscibility with	
Water at 25 °C:	<i>2040 g/l</i>
· Partition coefficient: n-octanol/water at 20 °C:	<i>-0.9 log POW (HPLC)</i>
· Viscosity:	
dynamic:	<i>Not applicable.</i>
kinematic:	<i>Not applicable.</i>
· 9.2 Other information	<i>No further relevant information available.</i>

SECTION 10: Stability and reactivity

- **10.1 Reactivity** *No further relevant informations available*
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *polymerizes when heated.*
- **10.3 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 polymerisation
Reacts with oxidizing agents
- **10.4 Conditions to avoid**
high temperatures
exposure to the light
- **10.5 Incompatible materials:**
Avoid contact with:
Oxidizers, acids, bases
- **10.6 Hazardous decomposition products:** *In case of fire: See Section 5*

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Toxic if swallowed.
Harmful in contact with skin or if inhaled.

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· LD/LC50 values that are relevant for classification:

Oral	LD50	177 mg/kg (rat)
Dermal	LD50	1141 mg/kg (rabbit)
	LC50/96h	180 mg/l (Forelle)

· Primary irritant effect:**· Skin corrosion/irritation**

Causes skin irritation.

· Serious eye damage/irritation

Eye irritant because of test results according to OECD TG 405.

Causes serious eye irritation.

· Respiratory or skin sensitisation

Skin sensitizer because of test results according to OECD TG 406.

May cause an allergic skin reaction.

· 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).

(ECHA SVHC Support Document - Acrylamide; Page 2)

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.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity Category 2 because of positive effects in 2-year study (oral, rat), NOAEL: 0,5 mg/kg bw/d.

Mutagenicity Category 2 because of positive effects according to in vivo and in vitro tests.

Reproductive toxicity Category 3: Fertility: NOAEL: 2 mg/kg bw/d (rat); Teratogenicity: NOAEL: 2,5 mg/kg bw/d (rat).

· Germ cell mutagenicity

May cause genetic defects.

· Carcinogenicity

May cause cancer.

· Reproductive toxicity

Suspected of damaging fertility.

· STOT-single exposure Based on available data, the classification criteria are not met.**· STOT-repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

· Aspiration hazard Based on available data, the classification criteria are not met.**SECTION 12: Ecological information****· 12.1 Toxicity****· Aquatic toxicity:**

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

Long-term toxicity to fish: NOEC: >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

EC50/48h | 98 mg/l (Daphnia magna)

· 12.2 Persistence and degradability

Easily biodegradable

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

· 12.3 Bioaccumulative potential No relevant bioaccumulation is expected because of log Pow = -0,9.**· 12.4 Mobility in soil**

No accumulation is expected in soils because of log Pow < 1 and its high water solubility.

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- **Additional ecological information:**
- **General notes:**
Water danger class 3 (German Regulation) (Assessment by list): extremely hazardous for water.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN-Number | UN2074 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | 2074 ACRYLAMIDE, SOLID |
| · ADR | 2074 ACRYLAMIDE, SOLID |
| · IMDG | ACRYLAMIDE, SOLID |
| · IATA | Acrylamide, solid |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 6.1 Toxic substances. |
| · Label | 6.1 |
| · 14.4 Packing group | III |
| · ADR, IMDG, IATA | |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Warning: Toxic substances. |
| · Danger code (Kemler): | 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 |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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· Transport/Additional information:**· ADR****· 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

· Transport category

2

· Tunnel restriction code

E

· 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":

UN2074, ACRYLAMIDE, SOLID, 6.1, III

SECTION 15: Regulatory information**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****· REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 28, 29, 60**· 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.

· Water hazard class: Water danger class 3 (Assessment by list): extremely hazardous for water.**· Other regulations, limitations and prohibitive regulations****· Substances of very high concern (SVHC) according to REACH, Article 57**

79-06-1 | acrylamide

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**SECTION 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**· 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

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

IATA: International Air Transport Association

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*GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**PNEC: Predicted No-Effect Concentration (REACH)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**SVHC: Substances of Very High Concern**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 3: Acute toxicity – Category 3**Acute Tox. 4: Acute toxicity – Category 4**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**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.**

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