Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

## 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.

(Contd. on page 2)

Version number 3 Revision: 27.10.2022 Printing date 27.10.2022

Trade name: Acrylamide

(Contd. of page 1)



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 GB 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.

Suspected of damaging fertility. H361f

H372 Causes damage to organs through prolonged or repeated exposure.

## · Precautionary statements

Obtain special instructions before use. P201

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing

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.

H361f Suspected of damaging fertility.

H372 Causes damage to organs through prolonged or repeated exposure.

## · Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing

P301+P310 *IF SWALLOWED: Immediately call a POISON CENTER/ doctor.* 

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.

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 2)

## SECTION 3: Composition/information on ingredients

· 3.1 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<sub>3</sub> H<sub>5</sub> N O

· MW: 71.1

· SVHC

79-06-1 acrylamide

## SECTION 4: First aid measures

· 4.1 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.

Remove contaminated clothing.

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 eve 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.

(Contd. on page 4)

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 3)

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

Dispose contaminated material as waste according to item 13.

Pick up mechanically.

· 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 sublimate 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.

- · 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

· 8.1 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%)

WEL Long-term value: 0.1 mg/m³

Carc; Sk

· PNECs

PNEC fresh water for permanent discharge: 0,03 mg/l

PNEC fresh water for occasiional discharge: 0,3 mg/l

PNEC sewage treatment plant: 0,2 mg/l

· Additional information:

skin absorbable

The lists that were valid during the creation were used as basis.

(Contd. on page 5)

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 4)

- · 8.2 Exposure controls
- · Appropriate engineering controls: No further data; see item 7.
- · Individual protection measures, such as 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.

#### · Hand protection:

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 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/face protection: Tightly sealed goggles.
- · **Body protection:** Protective work clothing.
- · Environmental exposure controls

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:

Physical state: Solid.
Colour: White
Odourless
Odour threshold: Not determined.
Melting point/freezing point: 84-85 °C

· Boiling point or initial boiling point and boiling

range: polymerizes below boiling point.

• Flammability: no information available

(Contd. on page 6)

Version number 3 Revision: 27.10.2022 Printing date 27.10.2022

Trade name: Acrylamide

(Contd. of page 5)

· Lower and upper explosion limit:

Not determined. · Upper: Not determined.

not applicable: solid, polymerizes below boiling point. · Flash point:

· Decomposition temperature: no information available

· *pH*:

· Viscosity:

· Kinematic viscosity: Not applicable. · Dynamic viscosity: Not applicable.

· Solubility:

2040 g/l · Water at 25 °C: · Partition coefficient n-octanol/water (log value): Not determined. 0.009 hPa Vapour pressure at 25 °C:

· Density and/or relative density:

· Density at 20 °C: 1.02 g/cm3 · Relative density: Not determined.

· Particle characteristics No information available

· 9.2 Other information

· Appearance:

· Form: Crystalline

· Important information on protection of health and

environment, and on safety:

· Explosive properties: Product does not present an explosion hazard.

· Molecular weight 71.1 g/mol

## 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 ttemperatures 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 hazard classes as defined in Regulation (EC) No 1272/2008:
- · 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)

· Skin corrosion/irritation: Causes skin irritation.

(Contd. on page 7)

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 6)

#### · Serious eye damage/irritation:

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

Causes serious eye irritation.

#### · Respiratory or skin sensitisation:

Skin sentisizer 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.
- · 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.
- · 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 (UK 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.

- · Additional toxicological information:
- · CMR effects (carcinogenity, 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).

- · 11.2 Information on other hazards:
- · Endocrine disrupting properties: Substance is not listed.

## 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

· 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.

- · 12.5 Results of PBT and vPvB assessment:
- · PBT: PBT assessment not available.
- · vPvB: vPvB assessment not available.
- 12.6 Endocrine disrupting properties: For information on endocrine disrupting properties see section 11.
- · 12.7 Other adverse effects:
- · Additional ecological information:
- · General notes:

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

Water danger class 3 (German Regulation) (Assessment by list): extremely hazardous for water.

GE

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 7)

## SECTION 13: Disposal considerations

- · 13.1 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.

SECTION 14: Transport information	
14.1 UN number or ID number	
ADR, IMDG, IATA	UN2074
14.2 UN proper shipping name	
ADR	2074 ACRYLAMIDE, SOLID
IMDG, IATA	ACRYLAMIDE, SOLID
14.3 Transport hazard class(es)	
ADR, IMDG, IATA	
Class:	6.1 Toxic substances.
Label:	6.1
14.4 Packing group	
ADR, IMDĞ, IATA	III
14.5 Environmental hazards	
Marine pollutant:	No
14.6 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
14.7 Maritime transport in bulk according to IM	
instruments	Not applicable.
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

(Contd. on page 9)

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

(Contd. of page 8)

· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5 kg 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

## SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I Substance is not listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 28, 29, 60
- · DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment Annex II

Substance is not listed.

- · REGULATION (EU) 2019/1148
- · Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

- · Annex II REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.
- · Regulation (EC) No 273/2004 on drug precursors Substance is not listed.
- · Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

- · 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.

· Technical instructions (air):

Class	Share in %
II	80-100

- · Water hazard class: Water danger class 3 (Assessment by list): extremely hazardous for water.
- · Substances of very high concern (SVHC) according to UK REACH

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
- Date of previous version: 30.08.2018
- · 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 (UK REACH) DMEL: Derived Minimal Effect Level

DMEL: Derived Minimal Effect Level NOAEL: No observed adverse effect level NOEC: no observed effect level concentration

(Contd. on page 10)

(Contd. of page 9)

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

Printing date 27.10.2022 Version number 3 Revision: 27.10.2022

Trade name: Acrylamide

PBT: persistent, bioaccumulative, toxic substance (UK REACH)

vPvB: very persistent, very bioaccumulative substance (UK REACH)

IC50: inhibitory concentration, 50 percent EC50: effective concentration, 50 percent

UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

GB 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

IATA: International Air Transport Association

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 (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic 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

GB