

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.4 Revision Date 23.07.2014

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name : Acrylamide

Product Number : 01700

Brand : Sigma-Aldrich

Index-No. : 616-003-00-0

REACH No. : 01-2119463260-48-XXXX

CAS-No. : 79-06-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie GmbH
Riedstrasse 2
D-89555 STEINHEIM

Telephone : +49 89-6513-1444

Fax : +49 7329-97-2319

E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : +49 7329-97-2323

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Carcinogenicity (Category 1B), H350

Germ cell mutagenicity (Category 1B), H340

Reproductive toxicity (Category 2), H361f

Acute toxicity, Oral (Category 3), H301

Specific target organ toxicity - repeated exposure (Category 1), H372

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2), H319

Skin irritation (Category 2), H315

Skin sensitisation (Category 1), H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

T	Toxic	R25, R48/23/24/25 R45 R46 R62
Xn	Harmful	R20/21
Xi	Irritant	R36/38 R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word	Danger
Hazard statement(s)	
H301	Toxic if swallowed.
H312 + H332	Harmful in contact with skin or if inhaled
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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 statement(s)	
P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none
Restricted to professional users.	

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Acrylic acid amide
Formula	:	C ₃ H ₅ NO
Molecular Weight	:	71,08 g/mol
CAS-No.	:	79-06-1
EC-No.	:	201-173-7
Index-No.	:	616-003-00-0
Registration number	:	01-2119463260-48-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Acrylamide Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 79-06-1 EC-No. 201-173-7 Index-No. 616-003-00-0 Registration number 01-2119463260-48-XXXX	Carc. 1B; Muta. 1B; Repr. 2; Acute Tox. 3; STOT RE 1; Acute Tox. 4; Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1; H372, H319, H315, H301, H312, H317, H332, H340, H350, H361f	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
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Acrylamide Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)

CAS-No.	79-06-1	T, Carc.Cat.2, Mut.Cat.2,	<= 100 %
EC-No.	201-173-7	Repr.Cat.3, R45 - R46 -	
Index-No.	616-003-00-0	R20/21 - R25 - R36/38 - R43 -	
Registration number	01-2119463260-48-XXXX	R48/23/24/25 - R62	

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Light sensitive. Store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: solid |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | 5,2 - 6 at 500 g/l |
| e) Melting point/freezing point | Melting point/range: 81 - 87 °C
Melting point/range: 82 - 86 °C - lit. |
| f) Initial boiling point and boiling range | 125 °C at 33 hPa - lit. |
| g) Flash point | 138 °C - closed cup |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | 2,1 hPa at 84,50 °C
0,04 hPa at 40 °C
0,0900 hPa at 25 °C |
| l) Vapour density | 2,45 - (Air = 1.0) |
| m) Relative density | no data available |
| n) Water solubility | 200 g/l at 20 °C |
| o) Partition coefficient: n-octanol/water | log Pow: -0,67 |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

Relative vapour density 2,45 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Acids, Oxidizing agents, Iron and iron salts., Copper, Brass, Free radical initiators

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 177 mg/kg

LC50 Inhalation - rat - 4 h - > 1.500 mg/m³

LD50 Dermal - rabbit - 1.141 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation

(OECD Test Guideline 404)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - rabbit

Result: Irritating to eyes.

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - guinea pig

May cause allergic skin reaction.

(OECD Test Guideline 406)

Germ cell mutagenicity

May alter genetic material. In vivo tests showed mutagenic effects

Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Possible human carcinogen

IARC: 2A - Group 2A: Probably carcinogenic to humans (Acrylamide)

Reproductive toxicity

Animal testing did not show any effects on foetal development.

May cause reproductive disorders. Suspected human reproductive toxicant

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure. - Peripheral nervous system

Aspiration hazard

no data available

Additional Information

RTECS: AS3325000

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 90 mg/l - 96 h

NOEC - Cyprinus carpio (Carp) - 5 mg/l - 28 d

Toxicity to daphnia and other aquatic invertebrates mortality NOEC - Daphnia magna (Water flea) - 60 mg/l - 48 h

EC50 - Daphnia magna (Water flea) - 160 mg/l - 48 h

12.2 Persistence and degradabilityBiodegradability Result: 100 % - Readily biodegradable.
(OECD Test Guideline 301D)**12.3 Bioaccumulative potential**Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 72 h
- 710 µg/l

Bioconcentration factor (BCF): 1,65

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Harmful to aquatic life.

no data available

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 2074

IMDG: 2074

IATA: 2074

14.2 UN proper shipping name

ADR/RID: ACRYLAMIDE, SOLID

IMDG: ACRYLAMIDE, SOLID

IATA: Acrylamide, solid

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

no data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Authorisations and/or restrictions on use**

Acrylamide CAS-No.: 79-06-1
Candidate List of Substances of Very High Concern for Authorisation
Carcinogenic (article 57a)
ED/68/2009

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15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
Muta.	Germ cell mutagenicity

Full text of R-phrases referred to under sections 2 and 3

T	Toxic
R20/21	Harmful by inhalation and in contact with skin.
R25	Toxic if swallowed.
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R62	Possible risk of impaired fertility.
Repr.Cat.3	Toxic to Reproduction Category 3

Further information

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