ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Acrylamide

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name	: Acrylamide
CBnumber	: CB4690458
CAS	: 79-06-1
EINECS Number	: 201-173-7
Synonyms	: Acrylamide,AAM

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

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

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.

Continuerinsing.

Hazard statements

H301 Toxic if swalloed

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

H372 Causes damage to organs through prolonged or repeated exposure

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SECTION 3: Composition/information on ingredients

Substance

Product name	: Acrylamide
Synonyms	: Acrylamide,AAM
CAS	: 79-06-1
EC number	: 201-173-7
MF	: C3H5NO
MW	: 71.08

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.

In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NOx)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

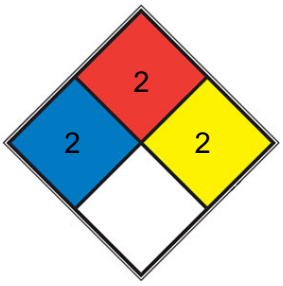
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



HEALTH	2	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. diethyl ether, ammonium phosphate, iodine)
FIRE	2	Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, sulfur)
REACT	2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, potassium, sodium)
SPEC. HAZ.		

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area.

Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Light sensitive. Store under inert gas.

Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

['Component', 'CAS-No.', 'Value', 'Control parameters', 'Basis']	['acrylamide', '79-06-1', 'PC-TWA', '0.3 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']	['', 'Remarks', 'G2A - Probably carcinogenic to humans Skin', None, None]

Biological occupational exposure limits

['Component', 'CAS-No.', 'Parameters', 'Value', 'Biological specimen', 'Basis']	['acrylamide', '79-06-1', 'N-(2- Carbamoyle thyl)valine (CbEV)', '500pico moles per gram Hemoglo bin', 'In blood', 'ACGIH - Biological Exposure Indices (BEI)']	['', 'Remarks', 'Not critical', None, None, None]	['', '', 'S-(2- Carbamoyle thyl)mercap turic acid (AAMA)', '800µg/g creatinin e', 'Urine', 'ACGIH - Biological Exposure Indices (BEI)']	['', '', 'End of shift', None, None, None]

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell,

Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 L

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Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

a) Physical state	crystalline
b) Color	white
c) Odor	odorless
d) Melting point/freezing point	Melting point/range: 82 - 86 °C - lit.
e) Initial boiling point and boiling range	125 °C at 33 hPa - lit.

f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	138 °C - closed cup
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	5.2 - 6 at 500 g/l
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	200 g/l at 20 °C
n) Partition coefficient n-octanol/water	log Pow: -0.9 at 20 °C - Bioaccumulation is not expected.
o) Vapor pressure	2.1 hPa at 84.50 °C 0.04 hPa at 40 °C
p) Density	1.12 g/cm3 at 30 °C
Relative density	1.12 at 30 °C - OPPTS 830.7300
q) Relative vapor density	2.45 - (Air = 1.0)
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
Solubility	2040 g/L (25°C)
Henry's Law Constant	(x 10^{-9} atmm^3/mol): 3.03 at 20 °C (approximate - calculated from water solubility and vapor pressure)

9.2 Other safety information

Relative vapor density

2.45 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.2 Possibility of hazardous reactions

Violent reactions possible with: alkalines

Oxidizing agents

Reducing agents

Bases

Metals

Peroxides acids

10.3 Conditions to avoid

Strong heating.

10.4 Incompatible materials

Strong oxidizing agents

10.5 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 177 mg/kg (OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 1.6 mg/l - dust/mist (Expert judgment)

LD50 Dermal - Rabbit - male and female - 1,141 mg/kg (OECD Test Guideline 402)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Skin corrosion/irritation

Remarks: Causes skin irritation.

(Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation - 24 h (OECD Test Guideline 405)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: positive (OECD Test Guideline 406)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Germ cell mutagenicity

May cause genetic defects.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster lung cells

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: dominant lethal test

Species: Rat

Application Route: Oral

Method: OECD Test Guideline 478

Result: positive

Carcinogenicity

Presumed to have carcinogenic potential for humans

Reproductive toxicity

Suspected of damaging fertility.

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

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

- Peripheral nervous system

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 2 yr - NOAEL (No observed adverse effect level) - 0.5 mg/kg

RTECS: AS3325000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to daphnia flow-through test EC50 - Daphnia magna (Water flea) - 98 mg/l - 48 and other aquatic h invertebrates (US-EPA)

Toxicity to algae static test NOEC - Pseudokirchneriella subcapitata - 56 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria EC50 - Photobacterium phosphoreum - 13,500 mg/l

Remarks: (IUCLID)

Toxicity to NOEC - Cyprinus carpio (Carp) - 5 mg/l - 28 d fish(Chronic toxicity) Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 100 % - Readily biodegradable.

(OECD Test Guideline 301D)

12.3 Bioaccumulative potential

Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 72 h - 0.71 mg/l(acrylamide)

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 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2074

IMDG: 2074

IATA-DGR: 2074

14.2 UN proper shipping name

ADR/RID: ACRYLAMIDE, SOLID

IMDG: ACRYLAMIDE, SOLID

IATA-DGR: Acrylamide, solid

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA-DGR: 6.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA-DGR: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport.

Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting

by road, please go along the specified route.

14.7 Incompatible materials

Strong oxidizing agents

SECTION 15: Regulatory information

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Regulations on Occupational Labor Protection in the at workplaces where Toxic

Substances Are Used

Catalogue of Highly Toxic Chemicals : Listed

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration