

Safety Data Sheet
 acc. to OSHA HCS

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Printing date 12/29/2017
 Reviewed on 12/29/2017
 Version number: 4

1 Identification

- **Product identifier**
- **Trade name:** acrylamide prop-2-enamide
- **Article number:** A1089
- **CAS Number:**
79-06-1
- **EC number:**
201-173-7
- **Index number:**
616-003-00-0
- **Application of the substance / the mixture**
Biochemistry
Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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2 Hazard(s) identification

- **Classification of the substance or mixture**
 Acute Tox. 3 H301 Toxic if swallowed.
 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. 2A H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 Muta. 1B H340 May cause genetic defects.
 Carc. 1B H350 May cause cancer.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

- **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**
 H301 Toxic if swallowed.
 H312+H332 Harmful in contact with skin or if inhaled.

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- 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.
- H361 Suspected of damaging fertility or the unborn child.
- 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.
- P302+P352 If on skin: Wash with plenty of soap and 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.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



• **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
79-06-1 acrylamide prop-2-enamide
- **Identification number(s)**
- **EC number:** 201-173-7
- **Index number:** 616-003-00-0

4 First-aid measures

- **Description of first aid measures**
- **General information:**
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.
Involve doctor immediately.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- **After skin contact:**
Call a doctor immediately.
Immediately rinse with water.
Dab with polyethylene glycol 400.
- **After eye contact:**
Rinse opened eye for several minutes under running water.

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- Call a doctor immediately.
- **After swallowing:**
 - Rinse out mouth.
 - make victim drink water (maximum of 2 drinking glasses)
 - Call a doctor immediately.
- **Information for doctor:**
- **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:**
 - CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
 - Nitrogen oxides (NO_x)
 - CO, CO₂
- **Advice for firefighters**
- **Protective equipment:**
 - Mouth respiratory protective device.
 - Wear self-contained respiratory protective device.
- **Additional information**
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Avoid formation of dust.
 - Do not inhale dust.
 - Avoid substance contact.
 - Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 - Pick up mechanically.
 - Avoid generation of dusts.
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.
 - Clean up affected area.
- **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.
- **Protective Action Criteria for Chemicals**
 - **PAC-1:** 0.09 mg/m³
 - **PAC-2:** 44 mg/m³
 - **PAC-3:** 100 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Thorough dedusting.
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.
 - Any deposit of dust which cannot be avoided must be regularly removed.

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- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** 2-8°C
- **Storage class:** 6.1 C
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **Components with limit values that require monitoring at the workplace:**

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

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
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.
Vacuum clean contaminated clothing. Do not blow or brush off contamination.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
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.
Suitable respiratory protective device recommended.
Filter P3
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.

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• **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min

• **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min

• **Eye protection:**



Tightly sealed goggles

• **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

9 Physical and chemical properties

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

• **General Information**

• **Appearance:**

Form: Solid
Color: Colorless

• **Odor:** Odorless

• **Odor threshold:** Not determined.

• **pH-value:** 5-7

• **Change in condition**

Melting point/Melting range: 84 °C (183.2 °F)

Boiling point/Boiling range: 125 °C (257 °F)

• **Flash point:** 138 °C (280.4 °F)

• **Flammability (solid, gaseous):** Product is not flammable.

• **Decomposition temperature:** 175-300 °C (347-572 °F)

• **Auto igniting:** Not determined.

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

• **Vapor pressure at 20 °C (68 °F):** 0.009 hPa (0 mm Hg)

• **Density at 20 °C (68 °F):** 1.13 g/cm³ (9.43 lbs/gal)

• **Bulk density:** ~500 kg/m³

• **Relative density** Not determined.

• **Vapor density** Not applicable.

• **Evaporation rate** Not applicable.

• **Solubility in / Miscibility with**

Water at 25 °C (77 °F): 2040 g/l

• **Partition coefficient (n-octanol/water):** Not determined.

• **Viscosity:**

Dynamic: Not applicable.

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- | | |
|--------------------------|--|
| Kinematic: | Not applicable. |
| Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No dangerous reactions known.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No dangerous reactions known.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
Oral	LD50	124 mg/kg (rat)	
Dermal	LD50	1,141 mg/kg (rabbit)	

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **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:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** -1.24
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Water hazard class 3 (Assessment by list): extremely hazardous for water
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- | | |
|---|-------------------------------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN2074 |
| · UN proper shipping name | |
| · DOT, ADR | Acrylamide, solid |
| · IMDG, IATA | ACRYLAMIDE, SOLID |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |
| · ADR | |
|  | |
| · Class | 6.1 (T2) Toxic substances |
| · Label | 6.1 |
| · 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 |
| · Danger code (Kemler): | 60 |
| · EMS Number: | F-A,S-A |
| · Stowage Category | A |
| · Stowage Code | SW1 Protected from sources of heat. |

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• 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**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **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.
- **Carcinogenity categories**
- **EPA (Environmental Protection Agency) L**
- **TLV (Threshold Limit Value established by ACGIH) 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**
H301 Toxic if swallowed.
H312+H332 Harmful in contact with skin or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
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• **Precautionary statements**

- P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of soap and 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.

• **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:** Dept. Compliance

• **Date of preparation / last revision** 12/29/2017 / 3

• **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

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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 Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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.**

US