

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/31/2019

Reviewed on 01/31/2019

## 1 Identification

- **Product identifier**
- **Trade name:** Acrolein, Stabilized 97%
- **Article number:** A1825
- **CAS Number:**  
107-02-8
- **EC number:**  
203-453-4
- **Index number:**  
605-008-00-3
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**  
Chemtec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 1 H330 Fatal if inhaled.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**· **Signal word** *Danger*· **Hazard statements***Highly flammable liquid and vapor.**Fatal if swallowed or if inhaled.**Toxic in contact with skin.**Causes severe skin burns and eye damage.*· **Precautionary statements***Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**[In case of inadequate ventilation] wear respiratory protection.**If swallowed: Immediately call a poison center/doctor.**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Call a poison center/doctor if you feel unwell.**Specific treatment is urgent (see on this label).**Take off immediately all contaminated clothing and wash it before reuse.**In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)**· **HMIS-ratings (scale 0 - 4)**· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.

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· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
107-02-8 acrylaldehyde
- **Identification number(s)**
- **EC number:** 203-453-4
- **Index number:** 605-008-00-3

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.

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- Ensure adequate ventilation.
- **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: 0.030 ppm
  - PAC-2: 0.10 ppm
  - PAC-3: 1.4 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
  - Ensure good ventilation/exhaustion at the workplace.
  - Open and handle receptacle with care.
  - Only handle and refill product in closed systems.
- **Information about protection against explosions and fires:**
  - Keep ignition sources away - Do not smoke.
  - Protect against electrostatic charges.
  - Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:**
    - Keep receptacle tightly sealed.
    - Store in cool, dry conditions in well sealed receptacles.
- **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:**

**CAS: 107-02-8 acrylaldehyde**

PEL	Long-term value: 0.25 mg/m <sup>3</sup> , 0.1 ppm
REL	Short-term value: 0.8 mg/m <sup>3</sup> , 0.3 ppm Long-term value: 0.25 mg/m <sup>3</sup> , 0.1 ppm See Pocket Guide App. C
TLV	Ceiling limit value: 0.23 mg/m <sup>3</sup> , 0.1 ppm Skin

- **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.

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Store protective clothing separately.  
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.

· **Protection of hands:**



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.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	Yellowish
<b>Odor:</b>	Pungent
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	-87 °C (-124.6 °F)
<b>Boiling point/Boiling range:</b>	53 °C (127.4 °F)

· **Flash point:** -26 °C (-14.8 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 278 °C (532.4 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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- **Explosion limits:**
  - Lower: 2.8 Vol %
  - Upper: 31 Vol %
- **Vapor pressure at 20 °C (68 °F):** 293 hPa (219.8 mm Hg)
- **Density at 20 °C (68 °F):** 0.83 g/cm<sup>3</sup> (6.92635 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with Water at 20 °C (68 °F):** 267 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Other information:** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **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 further relevant information available.
- **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:**

Oral	LD50	5 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4h	0.005 mg/l (ATE)

- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 3**
- **NTP (National Toxicology Program) Substance is not listed.**

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· OSHA-Ca (Occupational Safety &amp; 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** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 3 (Assessment by list): extremely hazardous for water  
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 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.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1092
- **UN proper shipping name**
- **DOT** *Acrolein, stabilized*
- **IMDG** *ACROLEIN, STABILIZED, MARINE POLLUTANT*
- **IATA** *ACROLEIN, STABILIZED*
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 6.1 Toxic substances

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· <b>Label</b>	6.1, 3
· <b>IMDG</b>	
	
· <b>Class</b>	6.1 Toxic substances
· <b>Label</b>	6.1/3
· <b>IATA</b>	
	
· <b>Class</b>	6.1 Toxic substances
· <b>Label</b>	6.1 (3)
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	I
· <b>Environmental hazards:</b>	Environmentally hazardous substance, liquid; Marine Pollutant
· <b>Marine pollutant:</b>	Yes (DOT) Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	336
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	D
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: Forbidden On cargo aircraft only: Forbidden
· <b>Hazardous substance:</b>	1 lbs, 0.454 kg
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1092 ACROLEIN, STABILIZED, 3 (6.1), I

## 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.

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· **TSCA (Toxic Substances Control Act):**

acrylaldehyde

- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency) I**
- **TLV (Threshold Limit Value established by ACGIH) A4**
- **NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02    GHS05    GHS06

- **Signal word** *Danger*
- **Hazard statements**
  - Highly flammable liquid and vapor.*
  - Fatal if swallowed or if inhaled.*
  - Toxic in contact with skin.*
  - Causes severe skin burns and eye damage.*
- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*
  - Ground/bond container and receiving equipment.*
  - Use explosion-proof electrical/ventilating/lighting/equipment.*
  - Use only non-sparking tools.*
  - Take precautionary measures against static discharge.*
  - Do not breathe dusts or mists.*
  - Wash thoroughly after handling.*
  - Do not eat, drink or smoke when using this product.*
  - Use only outdoors or in a well-ventilated area.*
  - Wear protective gloves/protective clothing/eye protection/face protection.*
  - [In case of inadequate ventilation] wear respiratory protection.*
  - If swallowed: Immediately call a poison center/doctor.*
  - If swallowed: Rinse mouth. Do NOT induce vomiting.*
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
  - Call a poison center/doctor if you feel unwell.*
  - Specific treatment is urgent (see on this label).*
  - Take off immediately all contaminated clothing and wash it before reuse.*
  - In case of fire: Use for extinction: CO2, powder or water spray.*
  - Store in a well-ventilated place. Keep container tightly closed.*
  - Store in a well-ventilated place. Keep cool.*
  - Store locked up.*
  - Dispose of contents/container in accordance with local/regional/national/international regulations.*

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· **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:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

Revision 0.0, 01-30-2019: Creation date for SDS. STN

01/31/2019 / -

· **Abbreviations and acronyms:**

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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 1: Acute toxicity – Category 1

Skin Corr. 1B: Skin corrosion/irritation – Category 1B