

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

1 Identification

- **Product identifier**
- **Trade name:** Acrylonitrile, 99+%
- **Article number:** A1838
- **CAS Number:**
107-13-1
- **EC number:**
203-466-5
- **Index number:**
608-003-00-4
- **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. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 1B H350 May cause cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

(Contd. on page 2)

-US-

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 1)



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

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

· **Hazard pictograms**



GHS02

GHS05

GHS06

GHS07

GHS08

· **Signal word** *Danger*

· **Hazard statements**

Highly flammable liquid and vapor.
Toxic if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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.
Rinse mouth.
If skin irritation or rash occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 2)

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container to Landfill

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 3

Reactivity = 0

· **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**

107-13-1 Acrylonitrile, 99+%

· **Identification number(s)**

· **EC number:** 203-466-5

· **Index number:** 608-003-00-4

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.

· **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.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 3)

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.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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.
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:** 0.15 ppm
- **PAC-2:** 1.7 ppm
- **PAC-3:** 28 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 4)

· **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: 107-13-1 Acrylonitrile, 99+%

PEL Long-term value: 2 ppm
Ceiling limit value: 10 ppm
Skin; see 29 CFR 1910.1045

REL Long-term value: 1 ppm
Ceiling limit value: 10* ppm
*15-min; Skin; See Pocket Guide App. A

TLV Long-term value: 4.3 mg/m³, 2 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.

Store protective clothing separately.

Avoid contact with the skin.

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

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 5)

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Clear
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range:	-83 °C (-117 °F)
Boiling point/Boiling range:	77 °C (171 °F)

· **Flash point:** 1 °C (34 °F)· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 480 °C (896 °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.

· Explosion limits:

Lower:	2.8 Vol %
Upper:	28 Vol %

· **Vapor pressure at 20 °C (68 °F):** 116 hPa (87 mm Hg)· **Density at 20 °C (68 °F):** 0.806 g/cm³ (6.726 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.

· Solubility in / Miscibility with

Water at 20 °C (68 °F): 73 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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 6)

- **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	78 mg/kg (rat)
Dermal	LD50	250 mg/kg (rabbit)
Inhalative	LC50/4 h	425 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 2B**
- **NTP (National Toxicology Program) R**
- **OSHA-Ca (Occupational Safety & Health Administration) Substance is 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.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017







Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 7)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA | <p style="text-align: right;">UN1093</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG, IATA | <p style="text-align: right;">Acrylonitrile, stabilized
ACRYLONITRILE, STABILIZED</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="text-align: right;">3 Flammable liquids
3, 6.1</p> |
| <ul style="list-style-type: none"> · IMDG | <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="text-align: right;">3 Flammable liquids
3/6.1</p> |
| <ul style="list-style-type: none"> · IATA | <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="text-align: right;">3 Flammable liquids
3 (6.1)</p> |
| <ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA | <p style="text-align: right;">I</p> |
| <ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: | <p style="text-align: right;">Environmentally hazardous substance, liquid
No</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Stowage Code | <p style="text-align: right;">Warning: Flammable liquids
3
F-E,S-D
E
SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p style="text-align: right;">Not applicable.</p> |

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 8)

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: Forbidden

On cargo aircraft only: 30 L

· **Hazardous substance:**

100 lbs, 45.4 kg

· **IMDG**

· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 1093 ACRYLONITRILE, 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.

· **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 not listed.

· **Chemicals known to cause developmental toxicity:** Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency) B1**

· **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**



GHS02

GHS05

GHS06

GHS07

GHS08

· **Signal word** Danger

· **Hazard statements**

Highly flammable liquid and vapor.

Toxic if swallowed, in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause an allergic skin reaction.

May cause cancer.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Ground/bond container and receiving equipment.

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/29/2017

Reviewed on 09/29/2017

Trade name: Acrylonitrile, 99+%

(Contd. of page 9)

- Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing must not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use personal protective equipment as required.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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.
 Rinse mouth.
If skin irritation or rash occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO₂, powder or water spray.
 Collect spillage.
 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 to Landfill
- **National regulations:**
 - **Additional classification according to Decree on Hazardous Materials:**
 - Carcinogenic hazardous material group I (extremely dangerous).
 - Carcinogenic hazardous material group II (very dangerous).
 - Carcinogenic hazardous material group III (dangerous).
 - **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:** Environment protection department.
 - **Contact:**
 - **Date of preparation / last revision**
 - 09-29-2017: review SDS for accuracy. STN
 - Creation date for SDS 10-13-2014. STN
 - 09/29/2017 / -
 - **Abbreviations and acronyms:**
 - 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)

(Contd. on page 11)

Safety Data Sheet
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Trade name: Acrylonitrile, 99+%

(Contd. of page 10)

*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. 3: Acute toxicity – Category 3**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**Carc. 1B: Carcinogenicity – Category 1B**Repr. 2: Reproductive toxicity – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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