

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

1 Identification

- **Product identifier**
- **Trade name:** 1,10 Phenanthroline 3 gpL
in 10% Methanol
- **Article number:** THE495
- **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:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Methanol (Methyl Alcohol)
- **Hazard statements**
May cause damage to the central nervous system and the visual organs.
- **Precautionary statements**
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF exposed or concerned: Call a poison center/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

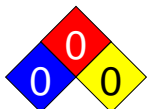
Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 g/L
in 10% Methanol**

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *0
Fire = 0
Reactivity = 0

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

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	7.9%
CAS: 5144-89-8	1,10-Phenanthroline, Monohydrate	0.3%

· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	91.8%
----------------	-------	-------

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult 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:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

Trade name: 1,10 Phenanthroline 3 g/L
in 10% Methanol

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **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).
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:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	530 ppm
--------------	---------------------------	---------

- **PAC-2:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	2,100 ppm
--------------	---------------------------	-----------

- **PAC-3:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	7200* ppm
--------------	---------------------------	-----------

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **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.
- **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:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 g/L
in 10% Methanol**

(Contd. of page 3)

CAS: 67-56-1 Methanol (Methyl Alcohol)

PEL Long-term value: 260 mg/m³, 200 ppm

REL Short-term value: 325 mg/m³, 250 ppm
Long-term value: 260 mg/m³, 200 ppm
Skin

TLV Short-term value: 328 mg/m³, 250 ppm
Long-term value: 262 mg/m³, 200 ppm
Skin; BEI

· Ingredients with biological limit values:
CAS: 67-56-1 Methanol (Methyl Alcohol)

BEI 15 mg/L
LD50 Intraperitoneal: urine
Time: end of shift
LD50: Methanol (background, nonspecific)

· **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.

Wash hands before breaks and at the end of work.

· **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:**

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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:** Goggles recommended during refilling.

· **Body protection:** Protective work clothing

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid
Color: Colorless

· **Odor:** Alcohol

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 gpL
in 10% Methanol**

(Contd. of page 4)

· Change in condition	
Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· 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):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F):	1.00072 g/cm ³ (8.35101 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	7.9 %
Water:	91.8 %
VOC content:	7.90 %
	79.1 g/l / 0.66 lb/gal
Solids content:	0.3 %
· 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.

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 g/L
in 10% Methanol**

(Contd. of page 5)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	11,201-19,509 mg/kg (rat)
Dermal	LD50	100,000 mg/kg
Inhalative	LC50/4h	151 mg/l

CAS: 67-56-1 Methanol (Methyl Alcohol)

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4h	3 mg/l (ATE)

CAS: 5144-89-8 1,10-Phenanthroline, Monohydrate

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4h	0.5 mg/l (ATE)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients 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 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

Trade name: 1,10 Phenanthroline 3 gpL
in 10% Methanol



(Contd. of page 6)

- **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 | UN1993 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Flammable liquids, n.o.s. (Methanol) |
| · DOT | FLAMMABLE LIQUID, N.O.S. (METHANOL) |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| | |
| · IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | III |
| · DOT, IMDG, IATA | |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | UN 1993 FLAMMABLE LIQUID, N.O.S. (METHANOL), 3, III |

US

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 gpL
in 10% Methanol**

(Contd. of page 7)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· Section 355 (extremely hazardous substances):
--

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
--

CAS: 67-56-1	Methanol (Methyl Alcohol)
--------------	---------------------------

· TSCA (Toxic Substances Control Act):

Water	ACTIVE
-------	--------

Methanol (Methyl Alcohol)	ACTIVE
---------------------------	--------

· Hazardous Air Pollutants

CAS: 67-56-1	Methanol (Methyl Alcohol)
--------------	---------------------------

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
--

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
--

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

CAS: 67-56-1	Methanol (Methyl Alcohol)
--------------	---------------------------

· Carcinogenic categories

· EPA (Environmental Protection Agency)
--

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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

· Hazard pictograms



GHS08

- **Signal word** Warning

· Hazard-determining components of labeling:

Methanol (Methyl Alcohol)

· Hazard statements

May cause damage to the central nervous system and the visual organs.

· Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/11/2020

Reviewed on 11/11/2020

**Trade name: 1,10 Phenanthroline 3 g/L
in 10% Methanol**

(Contd. of page 8)

Do not eat, drink or smoke when using this product.

IF exposed or concerned: Call a poison center/doctor.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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, 11-11-2020: Creation date for SDS. STN

11/11/2020 / -

· **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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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

BEI: Biological Exposure Limit

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2