

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde PCR
- **Article number:** MLU-020
- **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 shermann@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Sensitization - Skin 1 H317 May cause an allergic skin reaction.

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



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Acetic Acid, Glacial
- **Hazard statements**
May cause an allergic skin reaction.
- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 1)

- **Classification system:**

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



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

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	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: 64-19-7	Acetic Acid, Glacial	0.786%
CAS: 123-54-6	2,4-Pantanedione 99% (Acetylacetone)	0.485%

- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	92.505%
CAS: 631-61-8	Ammonium Acetate	6.223%

4 First-aid measures

- **Description of first aid measures**

- **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.

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

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **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 section 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: 631-61-8	Ammonium Acetate	3.8 mg/m ³
CAS: 64-19-7	Acetic Acid, Glacial	5 ppm
CAS: 123-54-6	2,4-Pantanedione 99% (Acetylacetone)	75 ppm

· **PAC-2:**

CAS: 631-61-8	Ammonium Acetate	42 mg/m ³
CAS: 64-19-7	Acetic Acid, Glacial	35 ppm
CAS: 123-54-6	2,4-Pantanedione 99% (Acetylacetone)	110 ppm

· **PAC-3:**

CAS: 631-61-8	Ammonium Acetate	250 mg/m ³
CAS: 64-19-7	Acetic Acid, Glacial	250 ppm
CAS: 123-54-6	2,4-Pantanedione 99% (Acetylacetone)	200 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:** No special measures required.
- **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:** None.
 - Specific end use(s)** No further relevant information available.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 3)

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

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

CAS: 64-19-7 Acetic Acid, Glacial

PEL Long-term value: 25 mg/m³, 10 ppm

REL Short-term value: 37 mg/m³, 15 ppm
Long-term value: 25 mg/m³, 10 ppm

TLV Short-term value: 15 ppm
Long-term value: 10 ppm

CAS: 123-54-6 2,4-Pantanedione 99% (Acetylacetone)

TLV Long-term value: 25 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:**

Immediately remove all soiled and contaminated clothing.

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:**



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. 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

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 4)

· Color:	Dark yellow
· Odor:	Slight Vinegar
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	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):	1.00436 g/cm ³ (8.38138 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:	0.8 %
Water:	92.5 %
VOC content:	0.79 %
	7.9 g/l / 0.07 lb/gal
· Solids content:	6.2 %
· 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.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 5)

· **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:****ATE (Acute Toxicity Estimate)**

Dermal LD50 162,752 mg/kg (rabbit)

Inhalative LC50/4h 1,051 mg/l (rat)

· **Primary irritant effect:**· **on the skin:** No irritant effect.· **on the eye:** No irritating effect.· **Sensitization:** Sensitization possible through skin contact.· **Additional toxicological information:**The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant· **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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 6)

- **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, ADN, IMDG, IATA	Not regulated
· UN proper shipping name · DOT, ADN, IMDG, IATA	Not regulated
· Transport hazard class(es) · DOT, ADN, IMDG, IATA · Class	Not regulated
· Packing group · DOT, IMDG, IATA	Not regulated
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Not regulated

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.	
· Sara	
· Section 355 (extremely hazardous substances): None of the ingredients is listed.	
· Section 313 (Specific toxic chemical listings): None of the ingredients is listed.	
· TSCA (Toxic Substances Control Act):	
Water	ACTIVE
Ammonium Acetate	ACTIVE
Acetic Acid, Glacial	ACTIVE
2,4-Pantanedione 99% (Acetylacetone)	ACTIVE
· Hazardous Air Pollutants None of the ingredients is listed.	
· Proposition 65	
· Chemicals known to cause cancer: None of the ingredients is listed.	

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 7)

· **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:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 631-61-8 Ammonium Acetate

D

· **TLV (Threshold Limit Value)**

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**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Acetic Acid, Glacial

· **Hazard statements**

May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves.

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

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 1.0 5/24/2023 Reviewed SDS for accuracy. STN

Revision 1.0 01-10-2022, removed fluoride and sulfate from ingredients. STN

Creation date for SDS 11-10-2014. STN

05/24/2023

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/24/2023

Reviewed on 05/24/2023

Trade name: Formaldehyde PCR

(Contd. of page 8)

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
Sensitization - Skin 1: Skin sensitisation – Category 1

· * Data compared to the previous version altered.

US