

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

## 1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde 15% v/v Solution
- **Article number:** GEN159
- **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](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 3                      H226 Flammable liquid and vapor.



GHS08 Health hazard

Germ Cell Mutagenicity 2              H341 Suspected of causing genetic defects.  
Carcinogenicity 1A                      H350 May cause cancer.



GHS07

Acute Toxicity - Oral 4                  H302 Harmful if swallowed.  
Acute Toxicity - Dermal 4              H312 Harmful in contact with skin.  
Acute Toxicity - Inhalation 4        H332 Harmful if inhaled.  
Skin Irritation 2                          H315 Causes skin irritation.  
Eye Irritation 2A                        H319 Causes serious eye irritation.  
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**



GHS02



GHS07



GHS08

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 1)

· **Signal word** *Danger*

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

*Formaldehyde*

· **Hazard statements**

*Flammable liquid and vapor.*

*Harmful if swallowed, in contact with skin or if inhaled.*

*Causes skin irritation.*

*Causes serious eye irritation.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

· **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.*

*Keep container tightly closed.*

*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.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

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

*Rinse mouth.*

*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.*

*IF exposed or concerned: Get medical advice/attention.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.*

*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)**



*Health = 2*

*Fire = 1*

*Reactivity = 0*

· **HMIS-ratings (scale 0 - 4)**



*Health = \*2*

*Fire = 1*

*Reactivity = 0*

(Contd. on page 3)

# Safety Data Sheet

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**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 2)

- **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: 50-00-0	Formaldehyde	15.0%
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- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	85.0%
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### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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. If symptoms persist, consult a doctor.
- **After swallowing:** 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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 3)

- **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: 50-00-0	Formaldehyde	0.90 ppm
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· **PAC-2:**

CAS: 50-00-0	Formaldehyde	14 ppm
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· **PAC-3:**

CAS: 50-00-0	Formaldehyde	56 ppm
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## 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:** 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 section 7.
- **Control parameters**

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

CAS: 50-00-0 Formaldehyde

PEL	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048(c)
REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Short-term value: 0.3 ppm Long-term value: 0.1 ppm DSEN; RSEN, A1

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 4)

· **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 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. 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:**



Tightly sealed goggles

· **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:** Pungent

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: -3 °C (26.6 °F)

· **Flash point:** 56 °C (132.8 °F)

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 5)

· <b>Flammability (solid, gaseous):</b>	Flammable.
· <b>Auto igniting:</b>	300 °C (572 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	7 Vol %
<b>Upper:</b>	73 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.9715 g/cm <sup>3</sup> (8.10717 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	15.0 %
<b>Water:</b>	85.0 %
<b>VOC content:</b>	15.00 %
	145.7 g/l / 1.22 lb/gal
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

Trade name: Formaldehyde 15% v/v Solution

(Contd. of page 6)

## 11 Toxicological information

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

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

### ATE (Acute Toxicity Estimate)

Oral	LD50	>1,333 mg/kg (rat)
Dermal	LD50	2,000 mg/kg
Inhalative	LC50/4h	20 mg/l

- **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:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

CAS: 50-00-0	Formaldehyde	I
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- **NTP (National Toxicology Program)**

CAS: 50-00-0	Formaldehyde	K
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- **OSHA-Ca (Occupational Safety & Health Administration)**

CAS: 50-00-0	Formaldehyde	
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## 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.
- **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 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 7)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

<b>· UN-Number</b>	
· DOT, ADN, IMDG, IATA	Not regulated
<b>· UN proper shipping name</b>	
· DOT, ADN, IMDG, IATA	Not regulated
<b>· Transport hazard class(es)</b>	
· DOT, ADN, IMDG, IATA	
· Class	Not regulated
<b>· Packing group</b>	
· DOT, IMDG, IATA	Not regulated
<b>· Environmental hazards:</b>	Not applicable.
<b>· Special precautions for user</b>	Not applicable.
<b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>· UN "Model Regulation":</b>	Not regulated

## 15 Regulatory information

<b>· Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
· Sara	
<b>· Section 355 (extremely hazardous substances):</b>	
CAS: 50-00-0	Formaldehyde
<b>· Section 313 (Specific toxic chemical listings):</b>	
CAS: 50-00-0	Formaldehyde
<b>· TSCA (Toxic Substances Control Act):</b>	
Water	ACTIVE
Formaldehyde	ACTIVE
<b>· Hazardous Air Pollutants</b>	
CAS: 50-00-0	Formaldehyde
<b>· Proposition 65</b>	
<b>· Chemicals known to cause cancer:</b>	
CAS: 50-00-0	Formaldehyde
<b>· Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed.	
<b>· Chemicals known to cause reproductive toxicity for males:</b>	
None of the ingredients is listed.	

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 8)

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 50-00-0 Formaldehyde

B1

· **TLV (Threshold Limit Value)**

CAS: 50-00-0 Formaldehyde

A2

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

CAS: 50-00-0 Formaldehyde

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** *Danger*

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

Formaldehyde

· **Hazard statements**

Flammable liquid and vapor.

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

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

· **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.

Keep container tightly closed.

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.

Wear protective gloves/protective clothing/eye protection/face protection.

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

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/11/2023

Reviewed on 08/11/2023

**Trade name: Formaldehyde 15% v/v Solution**

(Contd. of page 9)

Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.  
 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**

Revision 1.0, 08/11/2023: Reviewed SDS for Accuracy.. STN

Revision 0.0. 08-04-2016: creation date for SDS. STN

08/11/2023

· **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

Flammable Liquids 3: Flammable liquids – Category 3

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Sensitization - Skin 1: Skin sensitisation – Category 1

Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2

Carcinogenicity 1A: Carcinogenicity – Category 1A

· **\* Data compared to the previous version altered.**