

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde, 10% v/v
Solution (Formalin)
- **Article number:** F6055
- **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
Product safety department
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 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

- **Signal word** Warning

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

Formaldehyde, 37%

- **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

(Contd. on page 2)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 1)

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

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

Use explosion-proof electrical/ventilating/lighting/equipment.

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

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Continue rinsing.

Specific treatment (see on this label).

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 2

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *1

Fire = 2

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: 50-00-0	Formaldehyde, 37%	10.0%
--------------	-------------------	-------

· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water, Deionized, ASTM Type II	90.0%
----------------	--------------------------------	-------

4 First-aid measures

· **Description of first aid measures**

· **General information:**

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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 2)

- **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:**
CO₂, 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** 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 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.

7 Handling and storage

- **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:** 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:**

50-00-0 Formaldehyde, 37%

PEL Short-term value: 2 ppm
Long-term value: 0.75 ppm
see 29 CFR 1910.1048(c)

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 3)

REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Ceiling limit value: 0.37 mg/m ³ , 0.3 ppm (SEN) NIC-DSSEN; RSEN

· **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.

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:**

Safety glasses



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Color: Clear

· **Odor:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 4)

· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	-3 °C (27 °F)
· Flash point:	56 °C (133 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	300 °C (572 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	7.0 Vol %
Upper:	73.0 Vol %
· Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)
· Density at 20 °C (68 °F):	0.981 g/cm ³ (8.186 lbs/gal)
· Relative density	Not determined.
· Vapour 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:	10.0 %
Water:	90.0 %
VOC content:	10.0 %
	98.1 g/l / 0.82 lb/gl
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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:**

50-00-0 Formaldehyde, 37%

Oral LD50 >200 mg/kg (rat)

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 5)

- **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)**

50-00-0 Formaldehyde, 37%

I

- **NTP (National Toxicology Program)**

50-00-0 Formaldehyde, 37%

K

- **OSHA-Ca (Occupational Safety & Health Administration)**

50-00-0 Formaldehyde, 37%

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **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.
- **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** Not regulated
- **UN proper shipping name**
- **DOT, IMDG, IATA** Not regulated

(Contd. on page 7)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 6)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, 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
- Sara

· Section 355 (extremely hazardous substances):

50-00-0	Formaldehyde, 37%
---------	-------------------

· Section 313 (Specific toxic chemical listings):

50-00-0	Formaldehyde, 37%
---------	-------------------

· TSCA (Toxic Substances Control Act):

50-00-0	Formaldehyde, 37%
---------	-------------------

· Proposition 65

· Chemicals known to cause cancer:

50-00-0	Formaldehyde, 37%
---------	-------------------

· 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)

50-00-0	Formaldehyde, 37%	B1
---------	-------------------	----

· TLV (Threshold Limit Value established by ACGIH)

50-00-0	Formaldehyde, 37%	A2
---------	-------------------	----

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

50-00-0	Formaldehyde, 37%
---------	-------------------

· GHS label elements

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

(Contd. on page 8)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: Formaldehyde, 10% v/v
Solution (Formalin)**

(Contd. of page 7)

· **Hazard pictograms**



· **Signal word** Warning

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

Formaldehyde, 37%

· **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

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

Use explosion-proof electrical/ventilating/lighting/equipment.

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

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Continue rinsing.

Specific treatment (see on this label).

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:** Mr. Nelson

· **Date of preparation / last revision** 11/03/2014 / -

· **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

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

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Carc. 2: Carcinogenicity, Hazard Category 2