

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: August 22, 2020

## 1 Identification

- **Product identifier**
- **Trade name:** Formalin Solution, 10%
- **Product code:** S25330
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331 USA  
Tel +1 (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
Fisher Science Education  
6771 Silver Crest Road,  
Nazareth, PA 18064  
(800) 955-1177
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**
- 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.
- Muta. 2 H341 Suspected of causing genetic defects.
- Carc. 1B H350 May cause cancer.

### · Label elements

#### · GHS label elements

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

#### · Hazard pictograms:



GHS07 GHS08

- **Signal word:** Danger
- **Hazard statements:**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.

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H350 May cause cancer.

· **Precautionary statements:**





- P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
 P264 Wash thoroughly after handling.  
 P272 Contaminated work clothing must not be allowed out of the workplace.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P302+P352 If on skin: Wash with plenty of water.  
 P321 Specific treatment (see on this label).  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P363 Wash contaminated clothing before reuse.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

|           |  |     |
|-----------|--|-----|
| 50-00-0   | Formaldehyde<br> Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331<br> Muta. 2, H341; Carc. 1B, H350<br> Skin Corr. 1B, H314<br> Skin Sens. 1, H317<br>Flam. Liq. 4, H227 | 10% |
| 7732-18-5 | Water  | 90% |

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
 For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**

· **General information:** No special measures required.

· **After inhalation:**

Supply fresh air.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a poison center/doctor.

· **After skin contact:**

Immediately remove any clothing soiled by the product.

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Immediately wash with water and soap and rinse thoroughly.

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

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Coughing

Allergic reactions

Breathing difficulty

Gastric or intestinal disorders when ingested.

Irritating to eyes and skin.

· **Danger:**

May be harmful if swallowed, in contact with skin or if inhaled.

Suspected of causing genetic defects.

May cause cancer.

· **Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

Later observation for pneumonia and pulmonary edema.

Contains Formaldehyde. May produce an allergic reaction.

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

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Use fire fighting measures that suit the environment.

Carbon dioxide

Fire-extinguishing powder

Foam

Water fog / haze

Gaseous extinguishing agents

· **For safety reasons unsuitable extinguishing agents:** Water stream.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

Do not inhale explosion gases or combustion gases.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Isolate area and prevent access.

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Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up**

Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).

Send for recovery or disposal in suitable receptacles.

· **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

· **Handling**

· **Precautions for safe handling:**

Prevent formation of aerosols.

Use only in well ventilated areas.

Avoid splashes or spray in enclosed areas.

· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Avoid storage near extreme heat, ignition sources or open flame.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from oxidizing agents.

Store away from metals.

· **Further information about storage conditions:**

Keep containers tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **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.

### 50-00-0 Formaldehyde

|           |   |
|-----------|---|
| PEL (USA) | Short-term value: 2 ppm<br>Long-term value: 0.75 ppm<br>see 29 CFR 1910.1048(c)                 |
| REL (USA) | Long-term value: 0.016 ppm<br>Ceiling limit value: 0.1* ppm<br>*15-min; See Pocket Guide App. A |

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|                     |   |
|---------------------|---|
| TLV (USA)           | Short-term value: 0.37 mg/m <sup>3</sup> , 0.3 ppm<br>Long-term value: 0.12 mg/m <sup>3</sup> , 0.1 ppm<br>DSEN; RSEN |
| EL (Canada)         | Long-term value: 0.3 ppm<br>Ceiling limit value: 1 ppm<br>ACGIH A1; IARC 1; S(D), S(R)                                |
| EV (Canada)         | Short-term value: 1.0 ppm   |
| Ceiling limit value | 1.5 ppm   |
| LMPE (Mexico)       | Ceiling limit value: 0.3 ppm<br>A2, SEN   |

## · Exposure controls

### · General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.  
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.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:** Not required under normal conditions of use.

· **Protection of hands:**



Protective gloves

### · Material of gloves

Nitrile rubber, NBR

Butyl rubber, BR

Neoprene gloves

Natural rubber, NR

Sensibilization by the components in the glove materials is possible.

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

· **Appearance:**

**Form:** Fluid

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|   |   |
|---|---|
| · <b>Color:</b>                                   | Colorless                                     |
| · <b>Odor:</b>                                    | Characteristic                                |
| · <b>Odor threshold:</b>                          | Not determined.                               |
| · <b>pH-value:</b>                                | Not determined.                               |
| · <b>Melting point/Melting range:</b>             | Not determined.                               |
| · <b>Boiling point/Boiling range:</b>             | 100 °C (212 °F)                               |
| · <b>Flash point:</b>                             | The product is not flammable.                 |
| · <b>Flammability (solid, gaseous):</b>           | Not applicable.                               |
| · <b>Auto-ignition temperature:</b>               | ~300 °C (~572 °F)                             |
| · <b>Decomposition temperature:</b>               | Not determined.                               |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits</b>                         |   |
| Lower:  | 7 Vol %                                       |
| Upper:  | 73 Vol %                                      |
| · <b>Oxidizing properties:</b>                    | Non-oxidizing.                                |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                           |
| · <b>Density at 20 °C (68 °F):</b>                | 0.98 g/cm <sup>3</sup> (8.18 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>                                |   |
| Dynamic:  | Not determined.                               |
| Kinematic:  | Not determined.                               |
| · <b>Other information</b>                        | No relevant information available.            |

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Reacts with strong acids and alkali.  
Reacts with strong oxidizing agents.  
Reacts with inorganic acid chlorides.  
Reacts with certain metals.
- **Conditions to avoid**  
Keep ignition sources away - Do not smoke.  
Store away from oxidizing agents.

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- **Incompatible materials** Oxidizers, strong bases, strong acids
- **Hazardous decomposition products**  
Under fire conditions only:  
Carbon monoxide and carbon dioxide

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** May be harmful if swallowed, in contact with skin or if inhaled.

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

50-00-0 Formaldehyde

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | >200 mg/kg (rat) |
|------|------|------------------|

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** Sensitization possible through skin contact.

### · IARC (International Agency for Research on Cancer):

|         |              |   |
|---------|--------------|---|
| 50-00-0 | Formaldehyde | 1 |
|---------|--------------|---|

### · NTP (National Toxicology Program):

|         |              |   |
|---------|--------------|---|
| 50-00-0 | Formaldehyde | K |
|---------|--------------|---|

### · OSHA-Ca (Occupational Safety & Health Administration):

|         |              |
|---------|--------------|
| 50-00-0 | Formaldehyde |
|---------|--------------|

- **Probable route(s) of exposure:**  
Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.
- **Acute effects (acute toxicity, irritation and corrosivity):**  
May be harmful if swallowed, in contact with skin or if inhaled.  
Irritating to eyes and skin.
- **Germ cell mutagenicity:** Suspected of causing genetic defects.
- **Carcinogenicity:** May cause cancer.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** May cause respiratory irritation.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**

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· **General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.

· **Other adverse effects** No 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. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **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, ADR/RID/ADN, IMDG, IATA Not regulated.

· **UN proper shipping name**

· DOT, IMDG, IATA Not regulated.

· ADR/RID/ADN Not regulated.

· **Transport hazard class(es)**

· DOT, ADR/RID/ADN, IMDG, IATA

· Class Not regulated.

· **Packing group**

· DOT, ADR/RID/ADN, IMDG, IATA Not regulated.

· **Environmental hazards**

Not applicable.

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

## 15 Regulatory information

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

· United States (USA)

· SARA

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· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

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

50-00-0 | Formaldehyde

· **TSCA (Toxic Substances Control Act)**

All components have the value ACTIVE.

· **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

50-00-0 | Formaldehyde | 15000

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

50-00-0 | Formaldehyde

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

50-00-0 | Formaldehyde | B1

· **IARC (International Agency for Research on Cancer):**

50-00-0 | Formaldehyde | 1

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

## 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.

· **Abbreviations and acronyms:**

ADR: 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

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

· **Sources**

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Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor-internet/registry/substreg/home/overview/home.do))Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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