

Safety Data Sheet

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

Revision: February 14, 2020

1 Identification

- **Product identifier**
- **Trade name:** FAA Solution
- **Product code:** S25688
- **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
Phone: (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**
- Flam. Liq. 2 H225 Highly flammable liquid and vapor.
- 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. Route of exposure: Inhalation.

- **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:** Danger
- **Hazard statements:**
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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H317 May cause an allergic skin reaction.
 H341 Suspected of causing genetic defects.
 H350 May cause cancer. Route of exposure: Inhalation.

Precautionary statements:









P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P261 Avoid breathing mist, vapors, or 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.
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P370+P378 In case of fire: Use for extinction: Alcohol resistant foam or water spray.
 P403+P235 Store in a well-ventilated place. Keep cool.
 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:

64-17-5	Ethanol  Flam. Liq. 2, H225  Eye Irrit. 2A, H319	77%
64-19-7	Acetic acid  Flam. Liq. 3, H226  Met. Corr. 1, H290; Skin Corr. 1A, H314	7.6%
50-00-0	Formaldehyde  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  Muta. 2, H341; Carc. 1B, H350  Skin Corr. 1B, H314  Skin Sens. 1, H317 Flam. Liq. 4, H227	5.8%
67-56-1	Methanol	1.7%

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	 Flam. Liq. 2, H225  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  STOT SE 1, H370	
7732-18-5	Water	7.9%

· **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:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation continues, consult a doctor.

· **After eye contact:**

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

Dizziness

Allergic reactions

Irritant to skin and mucous membranes.

Causes eye irritation.

Causes skin irritation.

Gastric or intestinal disorders when ingested.

Acidosis

Disorientation

· **Danger:**

May cause cancer. Route of exposure: Inhalation.

Suspected of causing genetic defects.

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

Medical supervision for at least 48 hours.

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:**

Alcohol resistant foam

Water fog / haze

Water spray

Gaseous extinguishing agents

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- Carbon dioxide
- Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water stream.
- **Special hazards arising from the substance or mixture**
- Highly flammable liquid and vapor.
- 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.
- **Additional information:**
- Eliminate all ignition sources if safe to do so.
- Use large quantities of foam as it is partially destroyed by the product.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- Ensure adequate ventilation.
- Keep away from ignition sources.
- Protect from heat.
- Wear protective equipment. Keep unprotected persons away.
- For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions**
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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.
- Avoid splashes or spray in enclosed areas.
- Use only in well ventilated areas.
- **Information about protection against explosions and fires:**
- Highly flammable liquid and vapor.
- Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- Keep respiratory protective device available.
- Flammable gas-air mixtures may be formed in empty containers/receptacles.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**

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Store in a cool location.

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

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

Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

Store away from oxidizing agents.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Keep containers tightly sealed.

· **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:**

64-17-5 Ethanol

PEL (USA)	Long-term value: 1900 mg/m ³ , 1000 ppm
REL (USA)	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m ³ , 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1,900 mg/m ³ , 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm A3

64-19-7 Acetic acid

PEL (USA)	Long-term value: 25 mg/m ³ , 10 ppm
REL (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV (USA)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
EL (Canada)	Short-term value: 15 ppm Long-term value: 10 ppm
EV (Canada)	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
LMPE (Mexico)	Short-term value: 15 ppm Long-term value: 10 ppm

50-00-0 Formaldehyde

PEL (USA)	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048(c)
REL (USA)	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (USA)	Short-term value: 0.37 mg/m ³ , 0.3 ppm Long-term value: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

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EL (Canada)	Long-term value: 0.3 ppm Ceiling limit value: 1 ppm ACGIH A1; IARC 1; S(D), S(R)
EV (Canada) Ceiling limit value	Short-term value: 1.0 ppm 1.5 ppm
LMPE (Mexico)	Ceiling limit value: 0.3 ppm A2, SEN

67-56-1 Methanol

PEL (USA)	Long-term value: 260 mg/m ³ , 200 ppm
REL (USA)	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV (USA)	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI
EL (Canada)	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV (Canada)	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
LMPE (Mexico)	Short-term value: 250 ppm Long-term value: 200 ppm PIEL, IBE

· Ingredients with biological limit values:

67-56-1 Methanol

BEI (USA)	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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· 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**

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Butyl rubber, BR
 Fluorocarbon rubber (Viton)
 Nitrile rubber, NBR
 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: Liquid
 Color: Colorless

· **Odor:** Pungent
 · **Odor threshold:** Not determined.

· **pH-value:** Not determined.
 · **Melting point/Melting range:** Not determined.
 · **Boiling point/Boiling range:** 78 °C (172.4 °F)

· **Flash point:** 13 °C (55.4 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** ~300 °C (~572 °F)

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits**

Lower: 3.5 Vol %
 Upper: 15 Vol %

· **Oxidizing properties:** Not determined.

· **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)

· **Density at 20 °C (68 °F):** 0.83 g/cm³ (6.93 lbs/gal)
 · **Relative density:** Not determined.
 · **Vapor density:** Not determined.
 · **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with**

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Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information** 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**
Highly flammable liquid and vapor.
Reacts with alkali (lyes).
Reacts violently with oxidizing agents.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid**
Keep ignition sources away - Do not smoke.
Store away from oxidizing agents.
- **Incompatible materials** Oxidizers
- **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:**

ATE (Acute Toxicity Estimate)

Oral	LD50	2100-2800 mg/kg
Dermal	LD50	3800-4300 mg/kg
Inhalative	LC50/4h	25-35 mg/l

64-17-5 Ethanol

Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4h	20000 mg/l (rat)

50-00-0 Formaldehyde

Oral	LD50	>200 mg/kg (rat)
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- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Causes eye irritation.

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- **Sensitization:** Sensitization possible through skin contact.

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

64-17-5	Ethanol	1
50-00-0	Formaldehyde	1

- **NTP (National Toxicology Program):**

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

50-00-0	Formaldehyde	
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- **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Irritating to eyes and skin.
May be harmful if swallowed, in contact with skin or if inhaled.

- **Repeated dose toxicity:**

May cause sensitization by skin contact.
Danger of very serious irreversible effects.

- **Germ cell mutagenicity:** Suspected of causing genetic defects.

- **Carcinogenicity:** May cause cancer. Route of exposure: Inhalation.

- **Reproductive toxicity:** Based on available data, the classification criteria are not met.

- **STOT-single exposure:** Based on available data, the classification criteria are not met.

- **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**

- **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

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disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **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	UN1993
· UN proper shipping name	
· DOT	Flammable liquids, n.o.s. (Ethanol, Acetic acid, glacial)
· ADR/RID/ADN, IMDG	FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL), ACETIC ACID, GLACIAL)
· IATA	FLAMMABLE LIQUID, N.O.S. (ETHANOL, ACETIC ACID, GLACIAL)
· Transport hazard class(es)	
· DOT	
	
· Class	3
· Label	3
· ADR/RID/ADN	
	
· Class	3 (F1)
· Label	3
· IMDG, IATA	
	
· Class	3
· Label	3
· Packing group	
· DOT, ADR/RID/ADN, IMDG, IATA	II
· Environmental hazards	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-E

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- | | |
|--|-----------------|
| · Segregation groups | Acids |
| · 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**

· Section 302 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

50-00-0	Formaldehyde
67-56-1	Methanol

· TSCA (Toxic Substances Control Act)

64-17-5	Ethanol
64-19-7	Acetic acid
50-00-0	Formaldehyde
67-56-1	Methanol
7732-18-5	Water

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

50-00-0	Formaldehyde			15000
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· Proposition 65 (California)

· Chemicals known to cause cancer:

64-17-5	Ethanol
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:

64-17-5	Ethanol
67-56-1	Methanol

· EPA (Environmental Protection Agency):

50-00-0	Formaldehyde			B1
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· IARC (International Agency for Research on Cancer):

64-17-5	Ethanol			1
50-00-0	Formaldehyde			1

· Canadian Domestic Substances List (DSL):

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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. 2: Flammable liquids – Category 2
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Liq. 4: Flammable liquids – Category 4
 Met. Corr. 1: Corrosive to metals – Category 1
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 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
 STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

· Sources

Website, European Chemicals Agency (echa.europa.eu)
 Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
 Website, Chemical Abstracts Registry, American Chemical Society (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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