

Safety Data Sheet

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

Revision: February 14, 2020

1 Identification

- **Product identifier**
- **Trade name:** Acetaldehyde,
- **Product code:** S25115
- **CAS Number:**
75-07-0
- **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. 1 H224 Extremely flammable liquid and vapor.
Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
Carc. 2 H351 Suspected of causing cancer.
STOT SE 3 H335 May cause respiratory irritation.

· 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:**
H224 Extremely flammable liquid and vapor.
H302 Harmful if swallowed.

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H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.

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.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
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: Substances
CAS No. Description
75-07-0 acetaldehyde

4 First-aid measures

Description of first aid measures
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact:
Immediately remove any clothing soiled by the product.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
After eye contact:

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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:**

Dizziness

Coughing

Causes eye irritation.

May cause respiratory irritation.

Disorientation

· **Danger:**

Harmful if swallowed.

Suspected of causing cancer.

May cause neurotoxic effects.

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

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Water fog / haze

Water spray

Carbon dioxide

Gaseous extinguishing agents

Alcohol resistant foam

· **For safety reasons unsuitable extinguishing agents:** None.

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

Extremely flammable liquid and vapor.

Risk of explosion if heated under confinement.

· **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.

Cool endangered product with water spray.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Keep away from ignition sources.

Use only non-sparking tools.

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Protect from heat.

- **Environmental precautions**

Suppress gases/fumes/haze with water fog.

In case of gas release or seepage into the ground inform responsible authorities.

- **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:**

Open and handle receptacle with care.

Avoid splashes or spray in enclosed areas.

Avoid contact with the eyes and skin.

Avoid breathing mist, vapors, or spray.

Use only in well ventilated areas.

Use only non-sparking tools.

- **Information about protection against explosions and fires:**

Ground/bond container and receiving equipment.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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:**

Store in cool, dry conditions in well sealed receptacles.

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.

- **Further information about storage conditions:**

This product is hygroscopic.

Store at temperatures not exceeding 10 °C / 50 °F.

- **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:**

75-07-0 acetaldehyde

PEL (USA)	Long-term value: 360 mg/m ³ , 200 ppm
REL (USA)	See Pocket Guide Apps. A and C

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TLV (USA)	Ceiling limit value: 45 mg/m ³ , 25 ppm
EL (Canada)	Ceiling limit value: 25 ppm IARC 2B, ACGIH A2
EV (Canada)	Ceiling limit value: 25 ppm
LMPE (Mexico)	Ceiling limit value: 25 ppm A3

· 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.

· Engineering controls: Provide adequate ventilation.

· Breathing equipment:

Use suitable respiratory protective device in case of insufficient ventilation.

NIOSH or EN approved organic vapor respirator equipped with a dust/mist prefilter should be used.

· Protection of hands:



Protective gloves

· Material of gloves

Laminated film gloves.

Natural rubber, NR

Neoprene gloves

· Not suitable are gloves made of the following materials:

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

PVC gloves

· Eye protection:



Safety glasses

Face protection

· Body protection: Solvent resistant protective clothing

· Limitation and supervision of exposure into the environment

No relevant information available.

· Risk management measures No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Liquid

Color: Colorless

Odor: Fruit-like

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· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Melting point/Melting range:	-123 °C (-253.4 °F)
· Boiling point/Boiling range:	21 °C (69.8 °F)
· Flash point:	-27 °C (-80.6 °F)
· Flammability (solid, gaseous):	Not applicable.
· Auto-ignition temperature:	140 °C (284 °F)
· Decomposition temperature:	Not determined.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits	
Lower:	4 Vol %
Upper:	60 Vol %
· Oxidizing properties:	Not determined.
· Vapor pressure at 25 °C (77 °F):	750 mmHg
· Density:	
Relative density:	0.78
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.
· 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**
Extremely flammable liquid and vapor.
Reacts violently with oxidizing agents.
Risk of explosion if heated under confinement.
Used empty containers may contain product gases which form explosive mixtures with air.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** Excessive heat.
- **Incompatible materials** Oxidizers

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· **Hazardous decomposition products**

Under fire conditions only:
Carbon monoxide and carbon dioxide

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:** Harmful if swallowed.

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

Oral	LD50	900 mg/kg (mouse) 1930 mg/kg (rat)
Dermal	LD50	3450 mg/kg (rabbit)

· **Primary irritant effect:**

· **On the skin:** Based on available data, the classification criteria are not met.

· **On the eye:** Irritating effect.

· **Sensitization:** Based on available data, the classification criteria are not met.

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

2B

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

R

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

Substance is not listed.

· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Suspected of causing 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**

· **General notes:**

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

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· **Other adverse effects** No relevant information available.

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

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 UN1089

· **UN proper shipping name**

· DOT, IATA Acetaldehyde
· ADR/RID/ADN, IMDG ACETALDEHYDE

· **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**

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- | | |
|---|----------------------------|
| · DOT, ADR/RID/ADN, IMDG, IATA | I |
| · Environmental hazards | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Flammable liquids |
| · Hazard identification number (Kemler code): | 33 |
| · EMS Number: | 3-06 |
| · 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):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is listed.

· TSCA (Toxic Substances Control Act)

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

10000

· Proposition 65 (California)

· Chemicals known to cause cancer:

Substance is listed.

· Chemicals known to cause developmental toxicity for females:

Substance is not listed.

· Chemicals known to cause developmental toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· EPA (Environmental Protection Agency):

B2

· IARC (International Agency for Research on Cancer):

2B

· Canadian Domestic Substances List (DSL):

Substance is not listed.

16 Other information

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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. 1: Flammable liquids – Category 1

Acute Tox. 4: Acute toxicity – Category 4

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

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

SourcesWebsite, European Chemicals Agency (echa.europa.eu)Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor-internet/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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