# Acetaldehyde, Lab Grade

## SECTION 1 : Identification of the substance/mixture and of the supplier

**Product name** : **Acetaldehyde, Lab Grade**

**Manufacturer/Supplier Trade name**:

**Manufacturer/Supplier Article number**: **S25115**

**Recommended uses of the product and uses restrictions on use**:

**Manufacturer Details**:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

**Supplier Details**:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

**Emergency telephone number**:

Fisher Science Education Emergency Telephone No.: 800-535-5053

## SECTION 2 : Hazards identification

**Classification of the substance or mixture**:

**Flammable**
Flammable liquids, category 1

**Irritant**
Eye irritation, category 2A
Specific target organ toxicity following single exposure, category 3

**Health hazard**
Carcinogenicity, category 2

Flamm. Liq 1
Eye. Irrit 2A
Carcin. 2
STOT SE. 3
Aq AcTox 3

**Signal word** :Danger

**Hazard statements**:
Extremely flammable liquid and vapour
Causes serious eye irritation
May cause respiratory irritation
Suspected of causing cancer
Harmful to aquatic life

**Precautionary statements**:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use

Obtain special instructions before use
Wash skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Avoid release to the environment
Wear protective gloves/protective clothing/eye protection/face protection
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/light/…/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Avoid breathing dust/fume/gas/mist/vapours/spray
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position 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
If eye irritation persists get medical advice/attention
In case of fire: Use agents recommended in section 5 for extinction
Store in a well ventilated place. Keep container tightly closed
Store in a well ventilated place. Keep cool
Store locked up
Dispose of contents and container as instructed in Section 13

**Other Non-GHS Classification**:

**WHMIS**

B2 

D2A 

D2B 

**NFPA/HMIS**


NFPA SCALE (0-4)


HMIS RATINGS (0-4)

## SECTION 3 : Composition/information on ingredients

| **Ingredients:** | | |
|---|---|---|
| CAS 75-07-0 | Acetaldehyde | >99.5 % |
| | | Percentages are by weight |

## SECTION 4 : First aid measures

### Description of first aid measures

**After inhalation:** Immediately seek medical attention.Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen.Loosen clothing and place exposed in a comfortable position.

**After skin contact:** Wash hands and exposed skin with soap and plenty of water. Seek medical attention if irritation persists or if concerned. Continue rinsing while removing contaminated clothing and shoes.Before rewearing wash contaminated clothing.

**After eye contact:** Protect unexposed eye.Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses while rinsing.Seek medical attention if irritation persists or concerned.

**After swallowing:** Seek medical attention.Rinse mouth with water.Do not induce vomiting. Never give anything by mouth to an unconscious person.Seek medical attention if irritation, discomfort, or vomiting persists.

### Most important symptoms and effects, both acute and delayed:

Blurred vision.Nausea.Dizziness.Unconsciousness.Vomiting.Pulmonary edema.Convulsions.Sneezing.Irritation.Shortness of breath.Headache.;75-07-0: Eye & Upper Respiratory Tract irritation. 75-07-0: Potential Occupational Carcinogen. 75-07-0: Liver - Irregularities - Based on Human Evidence

### Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

## SECTION 5 : Firefighting measures

### Extinguishing media

**Suitable extinguishing agents:** Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.For large fires water may be ineffective.

**For safety reasons unsuitable extinguishing agents:**

### Special hazards arising from the substance or mixture:

May explode when heated.Empty containers retain product residue, liquid and vapor can be dangerous.Closed containers may rupture and explode during runaway polymerization.Accumulation of vapors increase risk of explosion.Vapors accumulate in low areas.Thermal decomposition can lead to release of irritating gases and vapors.Vapors may travel to a source of ignition and flash back.Sensitive to static discharge.

### Advice for firefighters:

**Protective equipment:** Wear protective eyeware, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):** Remove heat, sparks, and all sources of ignition.Use explosion-proof equipment.Test for peroxide formation before distillation or evaporation. Test for peroxide formation or discard after 1 year.Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

## SECTION 6 : Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation.Ensure that air-handling systems are operational.

**Environmental precautions:**

Should not be released into environment.Prevent from reaching drains, sewer, or waterway.

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

Wear protective eyeware, gloves, and clothing. Refer to Section 8.Always obey local regulations.If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13.Keep in suitable closed containers for disposal.Absorb with inert material. Use water spray to dilute spill to a non-flammable mixture.

**Reference to other sections:**

Addition of water or appropriate reducing materials will lessen peroxide formation.

## SECTION 7 : Handling and storage

**Precautions for safe handling:**

Remove heat, sparks, and all sources of ignition. Use explosion-proof equipment.Avoid contact with skin, eyes, and clothing.Follow good hygiene procedures when handling chemical materials. Refer to Section 8.Follow proper disposal methods. Refer to Section 13.Do not eat, drink, smoke, or use personal products when handling chemical substances.Handle under an inert atmosphere.

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

Reseal containers and store upright to prevent leakage.Store at: 2 - 8 °C. Store in a cool location.Keep away from food and beverages.Protect from freezing and physical damage.Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials. Ground and bond containers when transferring material.

## SECTION 8 : Exposure controls/personal protection



| | |
|---|---|
| **Control Parameters:** | 75-07-0, Acetaldehyde, C 25 ppm USA. ACGIH<br>75-07-0, Acetaldehyde, TWA 200 ppm 360 mg/m3 USA OSHA<br>75-07-0, Acetaldehyde, NIOSH: 2000 ppm IDLH |
| **Appropriate Engineering controls:** | Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. |
| **Respiratory protection:** | Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls.When necessary use NIOSH approved breathing equipment. |
| **Protection of skin:** | Select glove material impermeable and resistant to the substance.Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves.Wear protective clothing. |
| **Eye protection:** | Face shield and safety glasses are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |

**General hygienic measures:** Perform routine housekeeping.Wash hands before breaks and immediately after handling the product.Avoid contact with skin, eyes, and clothing.Before rewearing wash contaminated clothing.

## SECTION 9 : Physical and chemical properties

| | | | |
|---|---|---|---|
| **Appearance (physical state,color)**: | Clear colorless liquid | **Explosion limit lower**:<br>**Explosion limit upper**: | 4 %<br>60 % |
| **Odor**: | Fruity odor | **Vapor pressure**: | 1,008.5 hPa at 20 °C |
| **Odor threshold**: | Not Determined | **Vapor density**: | 1.52 - (Air = 1.0) |
| **pH-value**: | 5 at 20 °C | **Relative density**: | 0.785 g/cm3 at 25 °C |
| **Melting/Freezing point**: | -123 °C | **Solubilities**: | Soluble in water: Completely |
| **Boiling point/Boiling range**: | 21 °C | **Partition coefficient (n-octanol/water)**: | log Pow: 0.5 |
| **Flash point (closed cup)**: | -27 °C | **Auto/Self-ignition temperature**: | Not Determined |
| **Evaporation rate**: | 49.1 | **Decomposition temperature**: | Not Determined |
| **Flammability (solid,gaseous)**: | Flammable | **Viscosity**: | a. Kinematic:Not Determined<br>b. Dynamic: Not Determined |
| **Density**: Not Determined | | | |

## SECTION 10 : Stability and reactivity

**Reactivity:**Nonreactive under normal conditions.
**Chemical stability:**Closed containers may rupture and explode during runaway polymerization. Stable under normal conditions.
**Possible hazardous reactions:**None under normal processing.
**Conditions to avoid:**Accumulation of vapors.Heat.Exposure to air.Extremes of temperature and direct sunlight.Incompatible materials.Sensitive to static discharge.
**Incompatible materials:**Oxidizing agents, Reducing agents, acids, Nitric acid, Peroxides, Bases, Sodium Hydroxide, Amines, Ammonia, Oxygen, Warning: acetaldehyde is oxidized rapidly and exothermically by air, to acetic acid, Acid anhydrides, Alcohols, Halogens, Ketones, Phenol, Hydrogen sulfide gas, Hydrogen peroxide
**Hazardous decomposition products:**

## SECTION 11 : Toxicological information

| | | |
|---|---|---|
| **Acute Toxicity**: | | |
| **Oral**: | 75-07-0 | Lowest observable effect level Oral - rat - 675 mg/kg |
| **Inhalation**: | 75-07-0 | LC50 Inhalation - rat - 4 h - 13300 ppm |
| **Dermal**: | 75-07-0 | LD50 Dermal - rabbit - 3,540 mg/kg |
| **Chronic Toxicity**: No additional information. | | |

| | | |
|---|---|---|
| **Corrosion Irritation**: | | |
| **Dermal**: | 75-07-0 | Skin - rabbit Result: Mild skin irritation |
| **Sensitization**: | | No additional information. |
| **Single Target Organ (STOT)**: | | 75-07-0: May cause respiratory irritation. |
| **Numerical Measures**: | | No additional information. |
| **Carcinogenicity**: | | 75-07-0 : This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. |
| **Mutagenicity**: | | Mutagenic effects have occurred in experimental animals. Mutation in Mammalian Somatic Cells: Human |
| **Reproductive Toxicity**: | | Experiments have shown reproductive toxicity effects on laboratory animals. |

## SECTION 12 : Ecological information

**Ecotoxicity**

**75-07-0** : LC50 - Pimephales promelas (fathead minnow) - 31 mg/l - 96 h

**75-07-0**: Immobilization EC50 - Daphnia magna (Water flea) - 57.4 mg/l - 48 h

**75-07-0** : Growth inhibition EC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 24 h

**Persistence and degradability**: 75-07-0: Biotic/Aerobic - Exposure time 14 d Result: 80 % - Readily biodegradable.In the atmosphere it will degrade in a matter of hours by reaction with hydroxyl radicals and photolysis. If released into water it will rapidly biodegrade and volatilize (half-life 3 hrs for a typical river). If spilled on land it will also rapidly evaporate and leach into the ground where it will biodegrade.

**Bioaccumulative potential**:

**Mobility in soil**:

**Other adverse effects**: 75-07-0: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

## SECTION 13 : Disposal considerations

**Waste disposal recommendations**:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.Contact a licensed professional waste disposal service to dispose of this material.Dispose of empty containers as unused product.Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

## SECTION 14 : Transport information

**UN-Number**

1089

**UN proper shipping name**

Acetaldehyde

**Transport hazard class(es)**

**Class:**
3 Flammable liquids

**Packing group**:I
**Environmental hazard**:
**Transport in bulk**:
**Special precautions for user**:

## SECTION 15 : Regulatory information

**United States (USA)**

**SARA Section 311/312 (Specific toxic chemical listings)**:

Acute, Chronic, Fire

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

75-07-0 Acetaldehyde

**RCRA (hazardous waste code)**:

None of the ingredients is listed

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

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**:

75-07-0 Acetaldehyde 1000 lbs

**Proposition 65 (California)**:

**Chemicals known to cause cancer**:

None of the ingredients is listed

**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

**Canada**

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

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%)**:

None of the ingredients is listed

**Canadian NPRI Ingredient Disclosure list (limit 1%)**:

75-07-0 Acetaldehyde

## SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the

SDS contains all the information required by the Controlled Products Regulations. Note: . The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**GHS Full Text Phrases**:

**Abbreviations and acronyms**:

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