

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 10.24.2014

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Ethyl Ether, Anhydrous, ACS

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

Product name: Ethyl Ether, Anhydrous, ACS

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25903

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive
Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

Emergency telephone number:

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

SECTION 2: Hazards identification

Classification of the substance or mixture:



Health hazard

Aspiration hazard, category 1



Flammable

Flammable liquids, category 1



Irritant

Acute toxicity (oral, dermal, inhalation), category 4

Eye irritation, category 2A

Specific target organ toxicity following single exposure, category 3

Flammable liquids (Category 1).

Acute toxicity (Category 4).

Eye irritation (Category 2A).

Specific target organ toxicity - single exposure (Category 3).

Aspiration hazard (Category 1).

Signal word: Danger

Hazard statements:

Extremely flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Harmful if swallowed.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Precautionary statements:

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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 personal protective equipment as required.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
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.
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF exposed or concerned: Get medical advice/attention.
Do NOT induce vomiting.
In case of fire: Use agents recommended in section 5 for extinction.
Store in a well ventilated place. Keep cool.
Store locked up.
Dispose of contents and container to an approved waste disposal plant.

Other Non-GHS Classification: None

SECTION 3: Composition/information on ingredients

Ingredients:

| | | |
|---------------------------|-------------|-------|
| CAS 60-29-7 | Ethyl Ether | 100 % |
| Percentages are by weight | | |

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

After skin contact:

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After eye contact:

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing:

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Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

burning sensation. Irritation. Headache. Nausea. Shortness of breath.

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 dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing agents:

Water may be ineffective because it may not cool this material below its flash point.

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors. Vapors may form an explosive mixture with air. Vapors may cause flash back.

Advice for firefighters:

Protective equipment:

Wear protective eyewear, gloves, and clothing. Refer to Section 8. Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions):

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 eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Containerize for disposal. Refer to Section 13. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

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. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Do not ingest or inhale. Prevent build-up of vapors to explosive concentration. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Keep away from open flames, hot surfaces and sources of ignition. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

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SECTION 8: Exposure controls/personal protection



- Control Parameters:** 60-29-7, Ethyl Ether, OSHA PEL: 400 ppm TWA; 1200 mg/m³ TWA.
60-29-7, Ethyl Ether, OSHA STEL: 500 ppm 1,500 mg/m³.
- 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. Use adequate general or local explosion-proof ventilation.
- 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. Splash protection Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm Break through time: 30 min Material tested: Vitoject®.
- Eye protection:** Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.
- General hygienic measures:** Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

SECTION 9: Physical and chemical properties

| | | | |
|--|---|--|---|
| Appearance (physical state, color): | Clear, colorless liquid | Explosion limit lower: Explosion limit upper: | 1.8 %(V) 48 %(V) |
| Odor: | Characteristic, sweet, pungent | Vapor pressure at 20°C: | 563 hPa (422 mmHg) at 20 °C (68 °F) |
| Odor threshold: | Not determined | Vapor density: | 2.56 - (Air = 1.0) |
| pH-value: | Not determined | Relative density: | Not determined |
| Melting/Freezing point: | -116 °C (-177 °F) | Solubilities: | Water solubility: 65 g/l at 20 °C (68 °F) |
| Boiling point/Boiling range: | 34.6 °C (94.3 °F) at 1,013 hPa (760 mmHg) | Partition coefficient (n-octanol/water): | Not determined |
| Flash point (closed cup): | -40 °C (-40 °F) - closed cup | Auto/Self-ignition temperature: | 180 °C (356 °F) - Auto-flammability |
| Evaporation rate: | Not determined | Decomposition temperature: | Not determined |

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| Flammability (solid, gaseous): | Extremely flammable | Viscosity: | a. Kinematic: Not determined b. Dynamic: Not determined |
| Density at 20°C: | 0.71 g/cm ³ at 20 °C (68 °F) | | |

SECTION 10: Stability and reactivity

Reactivity:

Nonreactive under normal conditions.

Chemical stability:

Stable under normal conditions.

Possible hazardous reactions:

None under normal processing. Vapours may form explosive mixture with air.

Conditions to avoid:

Incompatible materials. Ignition sources. Direct Sunlight. Excess heat.

Incompatible materials:

Strong oxidizing agents. Strong acids.

Hazardous decomposition products:

Carbon oxides.

SECTION 11: Toxicological information

Acute Toxicity:

Dermal:

60-29-7 LD50 - rat - 1,215 mg/kg

Inhalation:

60-29-7 LC50 - mouse - 30 min - 31000 ppm Remarks: Behavioral:Convulsions or effect on seizure threshold.

Chronic Toxicity: No additional information.

Skin corrosion/irritation: No additional information.

Serious eye damage/irritation:

60-29-7 Rabbit - Eye irritation - 24 h - Draize Test

Respiratory or skin sensitization: No additional information.

Carcinogenicity: See section 15.

Germ cell mutagenicity: No additional information.

Reproductive Toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Additional toxicological information: No additional information.

SECTION 12: Ecological information

Ecotoxicity:

96 Hr LC50 Pimephales promelas: 2560 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: >10000 mg/L [static]

Persistence and degradability:

Readily biodegradable.

Bioaccumulative potential:

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Not Bioaccumulative.

Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects:

None identified.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Dispose of empty containers as unused product. Product or containers must not be disposed 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

US DOT

UN Number:

ADR, ADN, DOT, IMDG, IATA 1155

Limited Quantity Exception:

None

Bulk:

RQ (if applicable): None

Proper shipping Name: Diethyl ether.

Hazard Class: 3

Packing Group: I.

Marine Pollutant (if applicable): No additional information.

Comments: None

Non Bulk:

RQ (if applicable): None

Proper shipping Name: Diethyl ether.

Hazard Class: 3

Packing Group: I.

Marine Pollutant (if applicable): No additional information.

Comments: None



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):

None of the ingredients are listed.

RCRA (hazardous waste code):

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60-29-7 Diethyl ether; RCRA Waste number U117 (Ignitable waste).

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

60-29-7 Ethyl Ether 100 lbs.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

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.

NFPA: 2-4-0

HMIS: 2-4-0

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.

IATA International Air Transport Association.

GHS Globally Harmonized System of Classification and Labelling of Chemicals.

ACGIH American Conference of Governmental Industrial Hygienists.

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

NFPA National Fire Protection Association (USA).

HMIS Hazardous Materials Identification System (USA).

WHMIS Workplace Hazardous Materials Information System (Canada).

DNEL Derived No-Effect Level (REACH).

PNEC Predicted No-Effect Concentration (REACH).

CFR Code of Federal Regulations (USA).

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SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.

Effective date: 10.24.2014

Last updated: 06.17.2015