

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 10.24.2014**Ethyl Ether (Diethyl Ether)****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Ethyl Ether (Diethyl Ether)**Manufacturer/Supplier Article number:** EE1000**Recommended uses of the product and restrictions on use:** Laboratory Chemicals**Manufacturer Details:**

AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
1-717-632-1291

Emergency telephone number:**ChemTel: (24-hour)**

+1(800)255-3924

+1(813)248-0585 (International)

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:

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.

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Do not eat, drink or smoke when using this product.
 Avoid breathing dust/fume/gas/mist/vapors/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:**

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:

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:

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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. Use NIOSH-approved respiratory protection/breathing apparatus. Refer to Section 8.

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. Always obey local regulations. Containerize for disposal. Refer to Section 13. Refer to Section 8. 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. 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. Refer to Section 13.

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 closed. Store away from incompatible materials.

SECTION 8: Exposure controls/personal protection

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Control parameters:	60-29-7, Ethyl Ether, OSHA PEL: 400 ppm TWA; 1200 mg/m ³ TWA. 60-29-7, Ethyl Ether, OSHA STEL: 500 ppm 1,500 mg/m ³ .
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. 0.7 mm Break through time. 30 min Material tested. Vitoject. 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.
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 re-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
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)		

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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:**

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

Chronic Toxicity: No additional information.**Skin corrosion/irritation:** No additional information.**Serious eye damage/irritation:**

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

Respiratory or skin sensitization: No additional information.**Carcinogenicity:** No additional information.**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:

Not expected to bio accumulate.

Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects:

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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):

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.

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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: 2-0-0**HMIS:** 2-0-0**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)
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.