

## SAFETY DATA SHEET

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### SECTION 1: PRODUCT AND COMPANY INFORMATION

**Product name:** QEV

**Contact:**

Elixirgen Scientific, Inc.  
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Baltimore, MD 21205  
Phone: 443-869-5420  
www.elixirgenscientific.com

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### SECTION 2: HAZARD IDENTIFICATION

**GHS classification of the substance/mixture:**

Flammable liquids: Category 4

**GHS label elements, including precautionary statements:**

Hazard pictograms:



Signal word: Flammable  
Hazard Statement: H226 Flammable and vapor  
Precautionary statements: P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P262 Avoid contact with eyes, skin and clothes.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Other hazards which do not result in the classification or are not covered by the GHS:**

None.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS SUBSTANCE

Substance/Mixture: Mixture

Hazardous Ingredients

| Chemical Name | CAS-No. | GHS-US Hazardous Classification | Concentration (%) |
|---------------|---------|---------------------------------|-------------------|
| ethanol       | 64-17-5 | Flammable Liquid 2 H225         | < 1               |

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### SECTION 4: FIRST AID MEASURES

**Description of necessary measures.**

- Inhalation: Provide fresh air and contact physician if complaint persists or symptoms develop. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Skin contact: Wash off with soap and plenty of water.
- Eye contact: Flush eyes with water as a precaution.
- Ingestion; Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

**Most important symptoms/effects, acute and delayed.**

- Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
- Skin contact: May cause skin irritation, redness, and itching.
- Eye contact: Slightly hazardous in case of eye contact.
- Ingestion; May be harmful in case of ingestion.

**Indication of immediate medical attention and special treatment needed.**

No data available.

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**SECTION 5: FIRE-FIGHTING MEASURES****Suitable extinguishing media:**

Suitable extinguishing media: Water, water spray with additive, multipurpose dry chemicals, CO<sub>2</sub>, foams.

**Specific hazards arising from the substance or mixture:**

Do not inhale explosion and combustion gases.  
Combustion produces volatile vapors heavier than air (risk of spreading along the ground and distant ignition backfire.)

**Special protective equipment and precautions for fire-fighters:**

Wear self-contained breathing apparatus for firefighting if necessary. Collect contaminated fire extinguishing water separately. This must not be discharged into drain. Move undamaged containers from immediate hazard area if it can be done safely.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures:**

Avoid breathing vapors, mist or gas. For personal protection use safety glasses, lab coat, and gloves. Remove all sources of ignition. Remove persons to safety.

**Environmental precautions:**

Do not allow to enter soil/subsoil. Do not allow to enter surface water or drains.  
Retain contaminated washing water and dispose it.

In case of entry into waterways, soil or drain, inform the responsible authorities.  
Suitable material for taking up: absorbing material, sand.

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

Keep in suitable, closed containers. Absorb any spill with standard spill binder or absorbent material such as universal binder, sawdust etc. Wash with plenty of water.

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**SECTION 7: HANDLING AND STORAGE**

**Precautions for safe handling:**

Avoid contact with skin and eyes, inhalation of vapors and mists.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.

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

Keep container tightly closed in a dry and well-ventilated place. Recommended storage conditions are indicated on the packaging and on the product. Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters:**

| Ingredient | CAS No. | Value type (Form of exposure) | Control parameters/Permissible concentration | Basis        |
|------------|---------|-------------------------------|--|--------------|
| ethanol    | 64-17-5 | TWA                           | 1,000 ppm<br>1,900 mg/m <sup>3</sup>         | NIOSH<br>REL |
|            |         | TWA                           | 1,000 ppm<br>1,900 mg/m <sup>3</sup>         | OSHA<br>Z-1  |
|            |         | TWA                           | 1,000 ppm<br>1,900 mg/m <sup>3</sup>         | OSHA<br>P0   |
|            |         | STEL                          | 1,000 ppm                                    | ACGIH        |

**Appropriate engineering controls:**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment:**

Respiratory: In case of insufficient ventilation wear suitable respiratory equipment.  
Eyes: Safety goggles or splash guard safety glasses.

Body: Lab coat and gloves.  
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Aqueous solution.  
Odor: No data available.  
Odor threshold: No data available.  
pH: alkaline.  
Melting point/freezing point: -114°C.  
Initial boiling point and boiling range: 78°C.  
Flash point: 22°C.  
Evaporation rate: No data available.  
Flammability (solid, gas): No data available.  
Oxidizing properties: No data available.  
Lower flammability or explosive limits: 3.1 Vol.-% (59 g/m<sup>3</sup>).  
Upper flammability or explosive limits: 27.7 Vol.-% (532 g/m<sup>3</sup>)  
Vapor pressure: 58.0 mbar.  
Vapor density: 1.59 g/cm<sup>3</sup> www.weka.de.  
Relative density: 0.89 g/cm<sup>3</sup>.  
Solubility in water: Soluble.  
Partition coefficient: n-octanol/water: -0.3.  
Auto-ignition temperature: No data available.  
Decomposition temperature: No data available.  
Viscosity: 1.201 mPa\*s (dynamic).  
Explosive properties: Flammable liquid and vapour.  
Oxidizing properties: No data available.

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## SECTION 10: STABILITY AND REACTIVITY

Reactivity: Stable under normal conditions.  
Chemical stability: Stable under recommended storage conditions.  
Possibility of hazardous reactions: It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth), nitrides, and powerful reducing agents. It may catch fire on contact with oxidizing mineral acids, elementary metals (alkalis and alkaline earth), nitrides, organic peroxides and hydroperoxides, oxidizing agents, and reducing agents.  
Conditions to avoid: Heat, flames, hot surfaces, and sparks.  
Incompatible materials: Avoid contact with combustible materials. The product could catch fire.  
Hazardous decomposition products: No data available.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### Routes of exposure:

|                  |  |
|------------------|--|
| Skin absorption: | May be harmful if absorbed through the skin.   |
| Skin contact:    | May cause skin irritation.   |
| Eye contact:     | May cause eye irritation.  |
| Inhalation:      | May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. |
| Ingestion:       | May be harmful if swallowed.   |

### Acute toxicity:

#### Product:

|                            |                    |
|----------------------------|--------------------|
| Acute oral toxicity:       | No data available. |
| Acute inhalation toxicity: | No data available. |
| Acute dermal toxicity:     | No data available. |

#### Ingredients: ethanol; ethyl alcohol

|                            |  |
|----------------------------|--|
| Acute oral toxicity:       | LD50: Oral Rat: 6200 mg/kg<br>LD50: Oral Rabbit: 6300mg/kg |
| Acute inhalation toxicity: | LD50: Rat: 124.7mg/l/4h                                    |

**Irritation:** May cause skin and eye irritation in susceptible persons.

**Corrosivity:** none

**Sensitization:** not tested

**Repeated dose toxicity:** not tested

**Carcinogenicity:** not tested

**Mutagenicity:** not tested

**Toxicity for reproduction:** not tested

**Inhalation and Ingestion:** May be harmful after inhalation or if swallowed.

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## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity:

#### Product:

|                       |                    |
|-----------------------|--------------------|
| Toxicity to fish:     | No data available. |
| Toxicity to bacteria: | No data available. |
| Toxicity to Daphnia:  | No data available. |

#### Ingredients: ethanol; ethyl alcohol

|                       |                                |
|-----------------------|--------------------------------|
| Toxicity to fish:     | Duration: 48h – mg/l: 8.14     |
| Toxicity to bacteria: | Duration: 30 min – mg/l: 34634 |
| Toxicity to Daphnia:  | Duration 48h – mg/l: 9268      |

**Persistence and degradability:**

Ethanol: non persistent, volatile and inherently biodegradable

**Bioaccumulative potential:**

No data available.

**Mobility in soil:**

No data available; ethanol volatile and easily evaporates from the soil surface.

**Results of PBT and vPvB assessment:**

vPvB Substances: None - PBT Substances: None

**Other adverse effects:**

None.

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**SECTION 13: DISPOSAL INFORMATION**

Disposal of waste should be done in accordance with federal, state, and local regulations.

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**SECTION 14: TRANSPORT INFORMATION**

**UN number:** ADR/IATA/IMDG-UN number: 1170  
**UN proper shipping name:** ADR-shipping/IATA/IMDG technical Name: ETHANOL IN SOLUTION  
**Transport hazard class(es):** ADR/IATA/IMDG-Label:3  
**Packing Group:** ADR/IATA/IMDG-Packing group III  
**Environmental hazards:** ADR/RID / IMDG-Code/ICAO-TI / IATA-DGR: none  
**Marine pollutant:** No  
**Special Precautions for User:** IMDG-Technical name: ETHANOL IN SOLUTION. See also sections 6-8

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No data available.

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**SECTION 15: REGULATORY INFORMATION**

OSHA Hazards: None.  
CERCLA reportable quantity: None.  
SARA extremely hazardous: Not listed.  
SARA hazard categories: None.  
SARA toxic chemicals: Not listed.  
Inventory Status: This chemical is not listed on the US TSCA Chemical Substances Inventory.  
Toxic Substance Control Act: No specific regulations apply.

US State regulations:

**Massachusetts Right To know**

Ethanol 64-17-5

**Pennsylvania Right To Know**

Ethanol 64-17-5  
Water 77732-18-5

**New Jersey Right To Know**

Ethanol 64-17-5  
Water 77732-18-5

**California Prop 65**

Ethanol WARNING! This product contains a chemical known in the State of California to cause cancer. 64-17-5  
Ethanol WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm. 64-17-5

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**SECTION 16: OTHER INFORMATION**

**National Fire Protection Association (U.S.A.)**

Health hazard: 1  
Fire Hazard: 2  
Reactivity Hazard: 0

**Other comments:**

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