



## QUALITY EXTRACTIONS GROUP

### Safety Data Sheet Dimethyl Ether

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#### SECTION 1: Identification

##### 1.1 Product identifier

Product name	Dimethyl Ether
Brand	Quality Extractions Group

##### 1.2 Other means of identification

Methane, 1,1'-oxybis-; Methane, oxybis-; Methyl ether; oxybismethane; DME; Methoxymethane; Wood ether; Ether, Dimethyl; Dimethyl oxide; N,N-dimethyl ether; DIMETHYL ETHER PROPELLANT

##### 1.3 Recommended use of the chemical and restrictions on use

Synthetic/Analytical chemistry.

##### 1.4 Supplier's details

Name	Quality Extraction Group
Address	2533 Tracy Road Northwood OH 43619 USA
Telephone	567-698-9802
email	info@qualityextractions.com

##### 1.5 Emergency phone number(s)

ChemTrec: (800) 424-9300

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#### SECTION 2: Hazard identification

##### General hazard statement

Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

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### 2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Flammable gases, Cat. 1
- Gases under pressure, liquefied gas
- Specific target organ toxicity (single exposure), Cat. 3

### 2.2 GHS label elements, including precautionary statements

#### Pictogram



#### Hazard statement(s)

H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

#### Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	Eliminate all ignition sources if safe to do so.
P403	Store in a well-ventilated place.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to ...

### 2.3 Other hazards which do not result in classification

In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Other names / synonyms                      dimethyl ether

#### Hazardous components

##### 1. DIMETHYL ETHER

Concentration	Not specified
EC no.	204-065-8
CAS no.	115-10-6
Index no.	603-019-00-8

## **SECTION 4: First-aid measures**

### **4.1 Description of necessary first-aid measures**

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband
In case of skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
In case of eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
If swallowed	As this product is a gas, refer to the inhalation section.
Personal protective equipment for first-aid responders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### **4.2 Most important symptoms/effects, acute and delayed**

Eye contact: No known significant effects or critical hazards.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact: No known significant effects or critical hazards.

Frostbite: Try to warm up the frozen tissues and seek medical attention.

Ingestion: Can cause central nervous system (CNS) depression. As this product is a gas, refer to the inhalation section.

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

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Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Specific hazards arising from the chemical

Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Decomposition products may include the following materials:

carbon dioxide

carbon monoxide

### 5.3 Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## SECTION 6: Accidental release measures

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

Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

### 6.2 Environmental precautions

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

#### Reference to other sections

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

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### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Store locked up. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 1. DIMETHYL ETHER (CAS: 115-10-6 EC: 204-065-8)

### 8.2 Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

#### Skin protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

#### Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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### SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Colorless/Gas.
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-141.5°C (-222.7°F)
Initial boiling point and boiling range	-24.82°C (-12.7°F)
Flash point	Closed cup: -41.11°C (-42°F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability limits	Lower: 3.3% Upper: 26.2%
Vapor pressure	62.3 (psig)
Vapor density	1.6 (Air = 1)
Relative density	Not applicable.
Solubility(ies)	Not available.
Partition coefficient: n-octanol/water	0.07
Auto-ignition temperature	350°C (662°F)
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Aerosol product: Heat of combustion : -31284700 J/kg
Oxidizing properties	

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

#### 10.2 Chemical stability

The product is stable.

#### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

#### 10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

#### 10.5 Incompatible materials

Oxidizers.

#### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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### SECTION 11: Toxicological information

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### Information on toxicological effects

#### Acute toxicity

No known significant effects or critical hazards.

#### Skin corrosion/irritation

No known significant effects or critical hazards.

#### Serious eye damage/irritation

No known significant effects or critical hazards.

#### Respiratory or skin sensitization

Adverse symptoms may include the following: nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness

#### Germ cell mutagenicity

No known significant effects or critical hazards.

#### Carcinogenicity

No known significant effects or critical hazards.

#### Reproductive toxicity

No known significant effects or critical hazards.

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## SECTION 12: Ecological information

#### Toxicity

Not available.

#### Persistence and degradability

Not available.

#### Bioaccumulative potential

low

#### Mobility in soil

Not available.

#### Other adverse effects

No known significant effects or critical hazards.

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## SECTION 13: Disposal considerations

#### Disposal of the product

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Quality Extractions Group-owned pressure vessels should be returned to Quality Extractions Group. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is

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not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

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### SECTION 14: Transport information

#### DOT (US)

UN Number: UN1033  
Class: 2.1  
Packing Group: --  
Proper Shipping Name: DIMETHYL ETHER  
Environmental hazards: No.

#### IMDG

UN Number: UN1033  
Class: 2.1  
Packing Group: --  
Proper Shipping Name: DIMETHYL ETHER

#### IATA

UN Number: UN1033  
Class: 2.1  
Packing Group: --  
Proper Shipping Name: DIMETHYL ETHER

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### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations specific for the product in question

##### New Jersey Right To Know Components

Common name: DIMETHYL ETHER  
CAS number: 115-10-6

##### Pennsylvania Right To Know Components

Chemical name: Methane, oxybis-  
CAS number: 115-10-6

##### Canadian Domestic Substances List (DSL)

Chemical name: Methane, oxybis-  
CAS: 115-10-6

#### HMIS Rating

Dimethyl Ether	
HEALTH	* 1
FLAMMABILITY	4
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

#### NFPA Rating



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### SECTION 16: Other information

#### 16.1 Further information/disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-name supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.