



# Diethyl Ether

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 01/23/2015 Date of issue: 01/23/2015

Version: 1.0

### SECTION 1: IDENTIFICATION

#### Product Identifier

**Product Form:** Mixture

**Product Name:** Diethyl Ether

**Synonyms:** Ether, ethyl ether, ethyl oxide, diethyl oxide, ethyl ether inhibited

#### Intended Use of the Product

Solvent, chemical intermediate, starting fluid

#### Name, Address, and Telephone of the Responsible Party

##### **Company**

Osmium, LLC  
16300 NE 19th Ave, Ste 213  
North Miami Beach, FL 33162  
(305)-947-0108

##### **Manufacturer**

Industrias Monfel, SA de CV  
San Luis Potosi, Mexico.

#### Emergency Telephone Number

**Emergency Number** : CHEMTREC USA (800)-424-9300 SETIQ +52-55-5559-1588

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification of the Substance or Mixture

##### **Classification (GHS-US)**

Flam. Liq. 1 H224

Acute Tox. 4 (Oral) H302

STOT SE 3 H336

Full text of H-phrases: see section 16

#### Label Elements

##### **GHS-US Labeling**

##### **Hazard Pictograms (GHS-US)**



##### **Signal Word (GHS-US)**

: Danger

##### **Hazard Statements (GHS-US)**

: H224 - Extremely flammable liquid and vapor.

H302 - Harmful if swallowed.

H336 - May cause drowsiness or dizziness.

##### **Precautionary Statements (GHS-US)**

: P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.

P233 - Keep container tightly closed.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, lighting, ventilating equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P261 - Avoid breathing mist, spray, vapors.

P264 - Wash hands, forearms and exposed areas thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear eye protection, face protection, protective clothing, protective gloves.

P301+P312 - If swallowed: Call a doctor or POISON CENTER if you feel unwell.

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P330 - Rinse mouth.

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P370+P378 - In case of fire: Use appropriate media to extinguish.  
P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

### Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

**Unknown Acute Toxicity (GHS-US)** Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Ethyl ether	(CAS No) 60-29-7	95 - 99	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302 STOT SE 3, H336
Ethyl alcohol	(CAS No) 64-17-5	1 - 5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
2,6-Di-tert-butyl-p-cresol	(CAS No) 128-37-0	0.001	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

## SECTION 4: FIRST AID MEASURES

### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER/doctor/physician if you feel unwell. Remove to fresh air and keep at rest in a position comfortable for breathing.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

### Most Important Symptoms and Effects Both Acute and Delayed

**General:** Harmful if swallowed. May cause drowsiness and dizziness.

**Inhalation:** Dizziness. Drowsiness. Vomiting.

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Ingestion:** Dizziness. Drowsiness. Vomiting.

**Chronic Symptoms:** None expected under normal conditions of use.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Water spray, fog, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, or dry chemical.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Extremely flammable liquid and vapor. Will float and can be reignited on water surface. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors.

**Explosion Hazard:** May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

**Reactivity:** Reacts violently with oxidants causing fire and explosion hazard.

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### Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Do not allow run-off from fire fighting to enter drains or water sources. Do not breathe fumes from fires or vapours from decomposition. Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>). Peroxides.

### Reference to Other Sections

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Remove ignition sources. Use special care to avoid static electric charges. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid breathing vapor, mist, or spray. Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice.

#### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel. Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Evacuate unnecessary personnel. Eliminate ignition sources. Stop leak if safe to do so. Ventilate area.

### Environmental Precautions

Prevent entry to sewers and public waters.

### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clear up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools.

### Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. For further information refer to section 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

**Additional Hazards When Processed:** Handle empty containers with care because residual vapors are flammable.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Contaminated work clothing should not be allowed out of the workplace.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Store locked up. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep away from heat, sparks and flame. Store away from oxidizers, combustible materials, and all ignition sources.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

### Specific End Use(s)

Solvent, chemical intermediate, starting fluid.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Ethyl ether (60-29-7)		
Mexico	OEL TWA (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Mexico	OEL TWA (ppm)	400 ppm
Mexico	OEL STEL (mg/m <sup>3</sup> )	1500 mg/m <sup>3</sup>
Mexico	OEL STEL (ppm)	500 ppm

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<b>USA ACGIH</b>	ACGIH TWA (ppm)	400 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	500 ppm
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	400 ppm
<b>USA IDLH</b>	US IDLH (ppm)	1900 ppm (10% LEL)
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	1520 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	500 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	400 ppm
<b>British Columbia</b>	OEL STEL (ppm)	500 ppm
<b>British Columbia</b>	OEL TWA (ppm)	400 ppm
<b>Manitoba</b>	OEL STEL (ppm)	500 ppm
<b>Manitoba</b>	OEL TWA (ppm)	400 ppm
<b>New Brunswick</b>	OEL STEL (mg/m <sup>3</sup> )	1520 mg/m <sup>3</sup>
<b>New Brunswick</b>	OEL STEL (ppm)	500 ppm
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
<b>New Brunswick</b>	OEL TWA (ppm)	400 ppm
<b>Newfoundland &amp; Labrador</b>	OEL STEL (ppm)	500 ppm
<b>Newfoundland &amp; Labrador</b>	OEL TWA (ppm)	400 ppm
<b>Nova Scotia</b>	OEL STEL (ppm)	500 ppm
<b>Nova Scotia</b>	OEL TWA (ppm)	400 ppm
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	1516 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL STEL (ppm)	500 ppm
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	1213 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (ppm)	400 ppm
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	1516 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (ppm)	500 ppm
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	1213 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL TWA (ppm)	400 ppm
<b>Ontario</b>	OEL STEL (ppm)	500 ppm
<b>Ontario</b>	OEL TWA (ppm)	400 ppm
<b>Prince Edward Island</b>	OEL STEL (ppm)	500 ppm
<b>Prince Edward Island</b>	OEL TWA (ppm)	400 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	1520 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	500 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	400 ppm
<b>Saskatchewan</b>	OEL STEL (ppm)	500 ppm
<b>Saskatchewan</b>	OEL TWA (ppm)	400 ppm
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	1500 mg/m <sup>3</sup>
<b>Yukon</b>	OEL STEL (ppm)	500 ppm
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (ppm)	400 ppm
<b>Ethyl alcohol (64-17-5)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
<b>Mexico</b>	OEL TWA (ppm)	1000 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	1000 ppm
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	1000 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	1000 ppm

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<b>USA IDLH</b>	US IDLH (ppm)	3300 ppm (10% LEL)
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1880 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	1000 ppm
<b>British Columbia</b>	OEL STEL (ppm)	1000 ppm
<b>Manitoba</b>	OEL STEL (ppm)	1000 ppm
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	1880 mg/m <sup>3</sup>
<b>New Brunswick</b>	OEL TWA (ppm)	1000 ppm
<b>Newfoundland &amp; Labrador</b>	OEL STEL (ppm)	1000 ppm
<b>Nova Scotia</b>	OEL STEL (ppm)	1000 ppm
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	2355 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL STEL (ppm)	1250 ppm
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	1884 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (ppm)	1000 ppm
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	2355 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (ppm)	1250 ppm
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	1884 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL TWA (ppm)	1000 ppm
<b>Ontario</b>	OEL STEL (ppm)	1000 ppm
<b>Prince Edward Island</b>	OEL STEL (ppm)	1000 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	1880 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	1000 ppm
<b>Saskatchewan</b>	OEL STEL (ppm)	1250 ppm
<b>Saskatchewan</b>	OEL TWA (ppm)	1000 ppm
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
<b>Yukon</b>	OEL STEL (ppm)	1000 ppm
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (ppm)	1000 ppm
<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>		
<b>Mexico</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Mexico</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>USA ACGIH</b>	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (aerosol, inhalable, and vapour)
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>Nunavut</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapor)
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (inhalable fraction and vapour)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction and vapour)
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>

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### Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Proper grounding procedures to avoid static electricity should be followed. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapors may be released. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment:** Gloves. Protective goggles. Full protective flameproof clothing. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Flame retardant antistatic protective clothing.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Transparent, colorless
Odor	: Pungent, sweet
Odor Threshold	: < 10 ppm
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: -116 °C (-176.8 °F)
Boiling Point	: 34.6 °C (94.28 °F)
Flash Point	: -45 °C (-49 °F) (Tag closed cup)
Auto-ignition Temperature	: 180 °C (356 °F)
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: 1.9 %
Upper Flammable Limit	: 48 %
Vapor Pressure	: 440 mm Hg @ 20 °C (68 °F)
Relative Vapor Density at 20 °C	: 2.6
Relative Density	: Not available
Specific Gravity	: 0.71
Solubility	: Water: 69 g/l @ 20 °C (68 °F)
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: 0.23 cP @ 20 °C (68 °F)
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Static discharge could act as an ignition source.

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### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Reacts violently with oxidants causing fire and explosion hazard.

**Chemical Stability:** Extremely flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Incompatible materials. Direct sunlight. Extremely high or low temperatures. Ignition sources such as: sparks, heat, overheating, and open flame.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

**Hazardous Decomposition Products:** Carbon oxides (CO, CO<sub>2</sub>). May release flammable gases.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects - Product

**Acute Toxicity:** Oral: Harmful if swallowed.

**LD50 and LC50 Data:**

<b>Diethyl Ether</b>	
<b>ATE US (oral)</b>	1,227.27 mg/kg body weight

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness or dizziness.

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause drowsiness or dizziness.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

#### Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:**

<b>Ethyl ether (60-29-7)</b>	
<b>LD50 Oral Rat</b>	1215 mg/kg
<b>Ethyl alcohol (64-17-5)</b>	
<b>LD50 Oral Rat</b>	10470 mg/kg
<b>LD50 Dermal Rat</b>	20 ml/kg
<b>LC50 Inhalation Rat</b>	124.7 mg/l/4h
<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
<b>LD50 Oral Rat</b>	> 2930 mg/kg (Species: Sprague-Dawley)
<b>LD50 Dermal Rat</b>	> 2000 mg/kg
<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
<b>IARC Group</b>	3

### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity** No additional information available

<b>Ethyl ether (60-29-7)</b>	
<b>LC50 Fish 1</b>	2560 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>LC 50 Fish 2</b>	> 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

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<b>Ethyl alcohol (64-17-5)</b>	
<b>LC50 Fish 1</b>	(Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
<b>EC50 Daphnia 1</b>	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC 50 Fish 2</b>	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
<b>EC50 Other Aquatic Organisms 2</b>	0.43 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

### Persistence and Degradability

<b>Diethyl Ether</b>	
<b>Persistence and Degradability</b>	Not established.

<b>Ethyl alcohol (64-17-5)</b>	
<b>Persistence and Degradability</b>	Not established.

### Bioaccumulative Potential

<b>Diethyl Ether</b>	
<b>Bioaccumulative Potential</b>	Not established.

<b>Ethyl ether (60-29-7)</b>	
<b>Log Pow</b>	0.82 (at 23 °C)

<b>Ethyl alcohol (64-17-5)</b>	
<b>Log Pow</b>	-0.32
<b>Bioaccumulative Potential</b>	Not established.

<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
<b>BCF Fish 1</b>	230 - 2500
<b>Log Pow</b>	4.17

### Mobility in Soil Not available

### Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Additional Information:** Handle empty containers with care because residual vapors are flammable.

## SECTION 14: TRANSPORT INFORMATION

### In Accordance with DOT

**Proper Shipping Name** : DIETHYL ETHER  
**Hazard Class** : 3  
**Identification Number** : UN1155  
**Label Codes** : 3  
**Packing Group** : I  
**ERG Number** : 127



### In Accordance with IMDG

**Proper Shipping Name** : DIETHYL ETHER (ETHYL ETHER)  
**Hazard Class** : 3  
**Identification Number** : UN1155  
**Packing Group** : I  
**Label Codes** : 3  
**EmS-No. (Fire)** : F-E  
**EmS-No. (Spillage)** : S-D





# Diethyl Ether

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### In Accordance with IATA

Proper Shipping Name : DIETHYL ETHER  
Packing Group : I  
Identification Number : UN1155  
Hazard Class : 3  
Label Codes : 3  
ERG Code (IATA) : 3AH



### In Accordance with TDG

Proper Shipping Name : DIETHYL ETHER  
Packing Group : I  
Hazard Class : 3  
Identification Number : UN1155  
Label Codes : 3



## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

<b>Diethyl Ether</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Fire hazard Immediate (acute) health hazard
<b>Ethyl ether (60-29-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>EPA TSCA Regulatory Flag</b>	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
<b>Ethyl alcohol (64-17-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### US State Regulations

<b>Ethyl alcohol (64-17-5)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>U.S. - California - Proposition 65 - Developmental Toxicity</b>	WARNING: This product contains chemicals known to the State of California to cause birth defects.
<b>Ethyl ether (60-29-7)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Ethyl alcohol (64-17-5)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>2,6-Di-tert-butyl-p-cresol (128-37-0)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

### Canadian Regulations

<b>Diethyl Ether</b>	
<b>WHMIS Classification</b>	Class B Division 2 - Flammable Liquid

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### Ethyl ether (60-29-7)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification Class B Division 2 - Flammable Liquid

### Ethyl alcohol (64-17-5)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 0.1 %

WHMIS Classification Class B Division 2 - Flammable Liquid  
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

### 2,6-Di-tert-butyl-p-cresol (128-37-0)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 01/23/2015

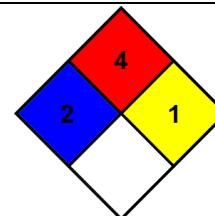
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA Health Hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.



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**NFPA Reactivity** : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

### Party Responsible for the Preparation of This Document

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North America GHS US 2012 & WHMIS 2