



# DIETHYLPYROCARBONATE (DEPC)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	Classification (GHS-US)
DIETHYLPYROCARBONATE (DEPC) (Main constituent)	(CAS No) 1609-47-8	100	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after skin contact : Tingling/irritation of the skin.
- Symptoms/injuries after eye contact : Irritation of the eye tissue.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- suitable extinguishing media : Water spray. Polyvalent foam. Alcohol-resistant foam. Polymer foam. BC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : No unsuitable extinguishing media known. Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard". Combustible liquid.
- Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapor-air mixture.
- Reactivity : Decomposes slowly on exposure to water (moisture): release of highly flammable gases/vapours (ethanol, carbon dioxide) with pressure build-up may cause closed container to burst. Upon combustion: CO and CO<sub>2</sub> are formed. Reacts with (some) bases: release of carcinogenic products. Prolonged storage: may form peroxides.

### 5.3. Advice for firefighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. When cooling/extinguishing: no water in the substance. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

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### SECTION 6: Accidental release measures

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

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

##### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Protective clothing.  
Emergency procedures : Mark the danger area. No naked flames. Keep containers closed. Avoid ingress of water in the containers. Wash contaminated clothes. On contact with moisture/water: keep upwind. On contact with moisture/water: consider evacuation. Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.  
Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.  
Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Precautions for safe handling : Comply with the legal requirements. Clean contaminated clothing. Handle and open the container with care. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Avoid contact of substance with water. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Before use: check for peroxides and eliminate them. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands/forearms/face thoroughly after handling.

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

Technical measures : Proper grounding procedures to avoid static electricity should be followed.  
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container closed when not in use. Keep in fireproof place.  
Incompatible products : Strong bases. strong acids.  
Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.  
Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.  
Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases. water/moisture.  
Storage area : Store in a cool area. Store in a dry area. May be stored under nitrogen. Meet the legal requirements.  
Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. with pressure relief valve. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.  
Packaging materials : SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

#### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Materials for protective clothing	: GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available.
Hand protection	: Gloves. Wear protective gloves.
Eye protection	: Face shield. Chemical goggles or safety glasses.
Skin and body protection	: Protective clothing.
Respiratory protection	: Respiratory protection not required in normal conditions. Wear approved mask.
Other information	: When using, do not eat, drink or smoke.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 162.14 g/mol
Color	: Colourless.
Odor	: Fruity odour.
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 160 °C
Flash point	: 69 °C
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 5.6
Relative density	: 1.1
Density	: 1100 kg/m <sup>3</sup>
Solubility	: Decomposes on exposure to water. Soluble in ethanol. Soluble in acetone. Soluble in ligroin.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

Other properties : Gas/vapour heavier than air at 20°C. Slightly volatile.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Decomposes slowly on exposure to water (moisture): release of highly flammable gases/vapours (ethanol, carbon dioxide) with pressure build-up may cause closed container to burst. Upon combustion: CO and CO<sub>2</sub> are formed. Reacts with (some) bases: release of carcinogenic products. Prolonged storage: may form peroxides.

#### 10.2. Chemical stability

Unstable on exposure to moisture. Not established. Combustible liquid. May form flammable/explosive vapor-air mixture.

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### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

### 10.5. Incompatible materials

strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

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LD50 oral rat	850 mg/kg (Rat)
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.

Symptoms/injuries after skin contact : Tingling/irritation of the skin.

Symptoms/injuries after eye contact : Irritation of the eye tissue.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : No data available on ecotoxicity.

### 12.2. Persistence and degradability

#### DIETHYLPYROCARBONATE (DEPC) (1609-47-8)

Persistence and degradability	Biodegradability in water: no data available. Not established.
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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	No bioaccumulation data available. Not established.
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to Local/Federal regulations.
- Additional information : Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapors are flammable.
- Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT  
No dangerous good in sense of transport regulations

#### Additional information

Other information : No supplementary information available.

#### ADR

Transport document description : UN N/A  
Packing group (ADR) : N/A  
Hazard identification number (Kemler No.) : N/A  
Classification code (ADR) : N/A

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### DIETHYLPYROCARBONATE (DEPC) (1609-47-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

No additional information available

##### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302  
Eye Irrit. 2 H319  
Skin Irrit. 2 H315

Full text of H-phrases: see section 16

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Xn; R22  
Xi; R36/38

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

No additional information available

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### 15.3. US State regulations

No additional information available

### SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Flam. Liq. 4	Flammable liquids Category 4
H227	Combustible liquid
H302	Harmful if swallowed

SDS US (GHS HazCom 2012)

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