

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Dimethyl Carbonate
CAS-No.	: 616-38-6
Formula	: C ₃ H ₆ O ₃
Synonyms	: carbonate diméthylique / carbonato de metilo / carbonato dimetilico / carbonato dimetilico / carbonic acid dimethyl ester / carbonic acid, dimethyl ester / Dimethoxyameisensäureanhydrid / dimethyl carbonate / diméthylcarbonate / diméthylecarbonate / dimetilcarbonato / dimetilo carbonato / dimetilocarbonato / dimetylkarbonat / Kohlensäuredimethylester / methylcarbonaat / methylcarbonate / Methylkarbonat

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Solvent
Recommended use	: Industrial use
Restrictions on use	: None known

1.3. Supplier

<u>Atlanta Branch Office</u>	<u>Ocoee Branch Office</u>	<u>Spartanburg Branch Office</u>
Whitaker Oil Company	Whitaker Oil Company	Whitaker Chemicals LLC
1557 Marietta Road NW	280 Enterprise Street	405 John Dodd Road
Atlanta, GA 30318	Ocoee, FL 34761	Spartanburg, SC 29303
404-355-8220 (t)	407-656.0088 (t)	864-578-6968 (t)
404-355-2436 (f)	407-877-8335 (f)	864-578-6864 (f)

WEBSITE: www.whitakeroil.comEMAIL: SDS@whitakeroil.com

1.4. Emergency telephone number

Emergency number : CHEMTREC 800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids H225 Highly flammable liquid and vapor
Category 2

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor

Precautionary statements (GHS-US) :

- P210 - Keep away from heat, hot surfaces, open flames, sparks. - 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
- P280 - Wear cold insulating gloves, protective clothing, eye protection, face protection
- P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- P370+P378 - In case of fire: Use Dry chemical, CO₂, or water spray or alcohol-resistant foam to extinguish
- P403+P235 - Store in a well-ventilated place. Keep cool

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P501 - Dispose of contents/container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Dimethyl Carbonate (Main constituent)	(CAS-No.) 616-38-6	100	Flam. Liq. 2, H225

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove the victim into fresh air. Doctor: administration of corticoid spray.
- First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing before washing.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist. Do not apply neutralizing agents.
- First-aid measures after ingestion : Rinse mouth with water. Do not induce vomiting. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre (www.big.be/antigif.htm).

4.2. Most important symptoms and effects (acute and delayed)

- Potential Adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Irritant to the skin. Irritant to the respiratory organs. May be narcotic if inhaled. Irritant to the eyes.
- Symptoms/effects after inhalation : Irritation of the respiratory tract. Dry/sore throat. Coughing. Dizziness. Narcosis. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema.
- Symptoms/effects after skin contact : Red skin. Tingling/irritation of the skin.
- Symptoms/effects after eye contact : Irritation of the eye tissue.
- Symptoms/effects after ingestion : Risk of aspiration pneumonia. Dry/sore throat. Nausea. Abdominal pain. Diarrhoea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (not alcohol-resistant).
- Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapor flammable with air within explosion limits.
INDIRECT FIRE HAZARD: May be ignited by sparks. Gas/vapor spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".
- Explosion hazard : DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits.
INDIRECT EXPLOSION HAZARD: may be ignited by sparks.
- Reactivity : Reacts violently with (strong) oxidizers: (increased) risk of fire. Decomposes on exposure to water (moisture).

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

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Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Head/neck protection. Protective clothing. Large spills/in enclosed spaces: gas-tight suit.

Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapor with water curtain. Dilute narcotic gases/vapors with water spray. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up : Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use spark-/explosion-proof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases.

Storage area : Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE LESS RESISTANCE: synthetic material

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Head/neck protection. Protective clothing

Respiratory protection:

Full face mask with filter type A. Self-contained breathing apparatus if conc. in air > 0.5 vol %

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless
Odor	: Pleasant odor
Odor threshold	: No data available
pH	: No data available
Melting point	: 2 °C
Freezing point	: No data available
Boiling point	: 90 °C
Flash point	: 18 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 53 hPa (20 °C)
Vapor pressure at 50 °C	: 300 hPa
Relative vapor density at 20 °C	: 3.1
Relative density	: 1.07
Relative density of saturated gas/air mixture	: 1.1
Specific gravity / density	: 1.069 g/cm ³
Molecular mass	: 90.09 g/mol
Solubility	: Insoluble in water. Soluble in ethanol. Soluble in ether. Soluble in tetrachloromethane. Water: insoluble, Literature
Log Pow	: No data available
Auto-ignition temperature	: 465 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 9.5 - 24.5 vol % LEL: 9.5 vol % UEL: 24.5 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

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9.2. Other information

VOC content : 100 %
Other properties : Gas/vapour heavier than air at 20°C. Volatile. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire. Decomposes on exposure to water (moisture).

10.2. Chemical stability

Stable under recommended storage conditions

10.3. Possibility of hazardous reactions

Vapors may form explosive mixture with air

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agents, strong acids, strong bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Dimethyl Carbonate (616-38-6)	
LD50 oral rat	13000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
ATE US (oral)	13000 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

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 : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Irritant to the skin. Irritant to the respiratory organs. May be narcotic if inhaled. Irritant to the eyes.

Symptoms/effects after inhalation : Irritation of the respiratory tract. Dry/sore throat. Coughing. Dizziness. Narcosis. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema.

Symptoms/effects after skin contact : Red skin. Tingling/irritation of the skin.

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

Symptoms/effects after ingestion : Risk of aspiration pneumonia. Dry/sore throat. Nausea. Abdominal pain. Diarrhoea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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

Ecology - water : Slightly harmful to aquatic organisms. Slightly harmful to fishes. Groundwater pollutant. Water pollutant (surface water). Insufficient data available on ecotoxicity.

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Dimethyl Carbonate (616-38-6)	
LC50 fish 1	100 - 1000 mg/l (96 h, Pisces)

12.2. Persistence and degradability

Dimethyl Carbonate (616-38-6)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

Dimethyl Carbonate (616-38-6)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into surface water. 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. Recycle by distillation. Incinerate under surveillance with energy recovery.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN1161 Dimethyl carbonate, 3, II
UN-No.(DOT)	: UN1161
Proper Shipping Name (DOT)	: Dimethyl carbonate
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L

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DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Emergency Response Guide (ERG) Number	: 129
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG)	: UN 1161 DIMETHYL CARBONATE, 3, II (18°C c.c.)
UN-No. (IMDG)	: 1161
Proper Shipping Name (IMDG)	: DIMETHYL CARBONATE
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: 1 L
EmS-No. (1)	: F-E
EmS-No. (2)	: S-D

Air transport

Transport document description (IATA)	: UN 1161 Dimethyl carbonate, 3, II
UN-No. (IATA)	: 1161
Proper Shipping Name (IATA)	: Dimethyl carbonate
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Dimethyl Carbonate (616-38-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard -

15.2. International regulations

CANADA

Dimethyl Carbonate (616-38-6)	
Toxic Substance (CEPA – Schedule I)	Yes

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Dimethyl Carbonate (616-38-6)	
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Revision date : 04/23/2018

Full text of H-phrases:

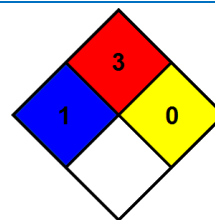
H225	Highly flammable liquid and vapor
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NFPA health hazard	: 1 - Materials that, under emergency conditions, can cause significant irritation.
NFPA fire hazard	: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

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