

**Safety Data Sheet**  
**According to Regulation (EC) No 1907/2006**

DIMETHYL CARBONATE

Version 1.0

Printing date: 27/05/2014

Revision date: 27/05/2014

SDS Record Number: CSSS-TCO-010-114848

**Section 1 Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier:**

Identification on the label/Trade name: Dimethyl carbonate  
Additional identification: Not available  
Identification of the product: CAS# 616-38-6; EC#210-478-4  
Index Number: 607-013-00-6  
REACH pre-registration No.: Not available

**1.2 Relevant identified uses of the substance and uses advised against:**

**1.2.1 Identified uses:**

Formulation of paint, adhesives, sealants, ink and ink cartridges  
Use of substance as a raw material or intermediate in the manufacture of chemicals using closed or partially closed continuous or batch processes (includes use as a monomer in the production of plastics)  
Use of the substance as a component in the blending or mixing of formulations using closed, partially closed or open continuous or batch processes  
Use as a laboratory reagent and in pharmaceutical products  
Solvent in batteries  
Use as a processing aid in the production of articles, including plastic items, by tableting, compression, extrusion etc. (industrial)  
Use as a cleaning product  
Application of paint, adhesives and sealants in an industrial setting

**1.2.2 Uses advised against:**

Not available.

**1.3 Details of the supplier of the safety data sheet:**

Supplier(Only representative): Chemical Inspection & Regulation Service Limited  
Supplier(Manufacturer): SHANDONG SHIDA SHENGHUA CHEMICAL GROUP CO.,LTD.  
Address: NO.489 BEIER ROAD,DONGYING CITY,SHANDONG PROVINCE,CHINA  
Contact person(E-mail): Xining Ding victoria@sinodmc.com  
Telephone: +86 546-8395198  
Fax: +86 546-8395016

**1.4 Emergency telephone Number:**

+353 41 980 6916 Only available during office hours (8:30a.m.-17:30p.m)

Available outside office hours?

YES

☐

NO

☒ X

**Section 2 Hazards Identification**

**2.1 Classification of the substance/mixture:**

**2.1.1 Classification:**

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

Product name: Dimethyl carbonate

SDS EU

Version #: 1.0

Printing date: 27-05-2014.

Revision date: 27-05-2014.

1 / 7

| REGULATION (EC) No 1272/2008     |              |
|----------------------------------|--------------|
| Hazard classes/Hazard categories | Hazard codes |
| Flam. Liquid 2                   | H225         |

For full text of H- phrases: see section 2.2.

| 67/548/EEC              |           |
|-------------------------|-----------|
| Hazards characteristics | R-Phrases |
| F                       | R11       |

For full text of R- phrases: see section 16.

## 2.2 label elements:

### Hazard Pictograms:



### Signal Word(S):

Danger

### Hazard Statement:

H225: Highly flammable liquid and vapour

### Precautionary statement:

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/ventilating/lighting/.../equipment.  
P242: Use only non-sparking tools.  
P243: Take precautionary measures against static discharge.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P370 + P378: In case of fire: Use Water spray, carbon dioxide, dry chemical powder for extinction.  
P403 + P235: Store in a well-ventilated place. Keep cool.  
P501: Dispose of contents/container in accordance with local regulations.

## 2.3 Other hazards:

Not available

## Section 3 Composition/information on ingredients

### Substance/Mixture:

Substance

### Ingredient(s):

| Chemical Name      | Pre-registration No. | CAS No.  | EC No.    | Concentration |
|--------------------|----------------------|----------|-----------|---------------|
| DIMETHYL CARBONATE | -                    | 616-38-6 | 210-478-4 | >99.0%        |

## Section 4 First aid measures

### 4.1 Description of first aid measures:

First-aid crew: Ensure self-protection. Move out of dangerous area. Take off contaminated clothing and shoes immediately.

#### 4.1.1 In case of inhalation:

Remove victim to fresh air. Get medical attention if symptoms occur.

#### 4.1.2 In case of skin contact:

Immediately flush with copious amount of water for at least 15 minutes and get medical attention.

**4.1.3 In case of eyes contact:**

Immediately flush with copious amount of water for at least 15 minutes and get medical attention

**4.1.4 In case of ingestion:**

Never make an unconscious person vomit or drink fluids. Get medical attention immediately.

**4.2 Most important symptoms and effects, both acute and delayed:**

Not available

**4.3 Indication of any immediate medical attention and special treatment needed:**

Not available

## Section 5 Fire-Fighting measures

**5.1 Extinguishing media:**

Suitable extinguishing media: Water spray, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media: None.

**5.2 Special hazards arising from the substance or mixture**

Mixture of vapor and air are explosive above flash point.

**5.3 Special fire fighting methods and special protective actions for fire-fighters:**

Wear goggles and self-contained breathing apparatus.

## Section 6 Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures:**

6.1.1 For non-emergency personnel: Wear self-contained breathing apparatus, goggles, rubber boots and rubber gloves.

6.1.2 For emergency responders: Wear relevant protective equipment. Sweep up to prevent slipping hazard.

**6.2 Environmental Precautions:**

Don't flush to sewer and river

**6.3 Methods for Containment and Cleaning up:**

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container. In case of large spills, dike for later disposal.

**6.4 Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

**6.5 Additional information:**

Not applicable.

## Section 7 Handling and storage

**7.1 Precautions for safe handling:**

7.1.1 Protective measures: Avoid contact with eyes, skin and clothing.

7.1.2 Advice on general occupational hygiene:

Eye wash bottles or eye wash stations in compliance with applicable standards. When using do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice.

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

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

**7.3 Specific end use(s):**

Reagent for organic synthesis.

## Section 8 Exposure Controls/Personal Protection

## 8.1 Control parameters:

|                                                               |                |
|---------------------------------------------------------------|----------------|
| 8.1.1 Occupational exposure limits:                           | Not available  |
| 8.1.2 Additional exposure limits under the conditions of use: | Not available. |
| 8.1.3 DNEL/DMEL and PNEC-Values:                              | Not available  |

## 8.2 Exposure controls:

|                                                                              |                                                                           |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 8.2.1 Appropriate engineering controls:                                      | Provide local exhaust ventilation system.                                 |
| 8.2.2 Individual protection measures, such as personal protective equipment: |                                                                           |
| Eye/face protection:                                                         | Wear safety goggles.                                                      |
| Hand protection:                                                             | Wear chemical resistant gloves.                                           |
| Body protection:                                                             | Wear chemical resistant clothing.                                         |
| Respiratory protection:                                                      | Wear an approved air respirator.                                          |
| Thermal hazards:                                                             | Wear suitable protective clothing to prevent heat.                        |
| 8.2.3 Environmental exposure controls:                                       | Dispose of rinse water in accordance with local and national regulations. |

## Section 9 Physical and chemical properties

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

|                                            |                                              |
|--------------------------------------------|----------------------------------------------|
| Appearance:                                | liquid                                       |
| Colour:                                    | colorless                                    |
| Odour:                                     | pleasant                                     |
| Odour threshold:                           | Not available                                |
| pH:                                        | Not available                                |
| Melting point/range (°C):                  | 4.65 °C                                      |
| Boiling point/range (°C):                  | 90.2°C at 101.3 kPa                          |
| Flash point (°C):                          | 16.7 °C                                      |
| Evaporation rate:                          | Not available                                |
| Flammability limit - lower (%):            | Not available                                |
| Flammability (solid, gas):                 | Not available                                |
| Ignition temperature (°C):                 | Not available                                |
| Upper/lower flammability/explosive limits: | Not available                                |
| Vapour pressure (20°C):                    | 7570.4 Pa                                    |
| Vapour density:                            | Not available                                |
| Relative Density:                          | 1.06                                         |
| Bulk density (kg/m <sup>3</sup> ):         | Not available                                |
| Water solubility (g/l):                    | 114.7 g/L at 20°                             |
| n-Octanol/Water (log Po/w):                | 0.354 at 20°C                                |
| Auto-ignition temperature:                 | 458 °C                                       |
| Decomposition temperature:                 | Not available                                |
| Viscosity, dynamic (mPa.s):                | 0.585 mPa s                                  |
| Explosive properties:                      | Not explosive                                |
| Oxidising properties:                      | No oxidising                                 |
| Molecular Formula:                         | C <sub>3</sub> H <sub>6</sub> O <sub>3</sub> |
| Molecular Weight:                          | 90.08                                        |

## 9.2. Other information:

|                                              |               |
|----------------------------------------------|---------------|
| Fat solubility(solvent– oil to be specified) | Not available |
| etc:                                         |               |
| Surface tension:                             | Not available |
| Dissociation constant in water( pKa):        | Not available |
| Oxidation-reduction Potential:               | Not available |
| Specific gravity:                            | Not available |

## Section 10 Stability and reactivity

|                                          |                                                           |
|------------------------------------------|-----------------------------------------------------------|
| 10.1 Reactivity:                         | no data available                                         |
| 10.2 Chemical stability:                 | Stable under recommended storage conditions.              |
| 10.3 Possibility of hazardous reactions: | no data available                                         |
| 10.4 Conditions to avoid:                | Avoid heat, flames, sparks and other sources of ignition. |
| 10.5 Incompatible materials:             | Acids, bases, oxidizing and reducing agents               |
| 10.6 Hazardous decomposition products:   | Thermal decomposition products like oxides of carbon      |

## Section 11 Toxicological information

### 11.1 Toxicokinetics, metabolism and distribution:

|                               |               |
|-------------------------------|---------------|
| Non-human toxikological data: | Not available |
|-------------------------------|---------------|

### 11.2 Information on toxicological effects:

|                        |                     |
|------------------------|---------------------|
| Acute toxicity:        |                     |
| LD50(Oral, Rat):       | > 5000 mg/kg bw     |
| LD50(Dermal, Rat):     | > 2000 mg/kg bw     |
| LC50(Inhalation, Rat): | > 5.36 mg/L air(4h) |

|                                    |                |
|------------------------------------|----------------|
| 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 |
| STOT- single exposure:             | Not classified |
| STOT-repeated exposure:            | Not classified |

## Section 12 Ecological information

### Toxicity:

| Acute toxicity |             | Time | Species | Method                | Evaluation | Remarks |
|----------------|-------------|------|---------|-----------------------|------------|---------|
| LC50           | >= 100 mg/L | 96h  | Fish    | EU Method C.1         | N/A        | N/A     |
| EC50           | > 100 mg/L  | 48h  | Daphnia | OECD Guideline<br>202 | N/A        | N/A     |
| EC50           | > 100 mg/L  | 72h  | Algae   | OECD Guideline<br>201 | N/A        | N/A     |

|                                |                       |
|--------------------------------|-----------------------|
| Persistence and degradability: | readily biodegradable |
|--------------------------------|-----------------------|

|                                 |                      |
|---------------------------------|----------------------|
| Bioaccumulative potential:      | Not available.       |
| Mobility in soil:               | Not available.       |
| Results of PBT&vPvB assessment: | Neither PBT nor vPvB |
| Other adverse effects:          | Not available.       |

## Section 13 Disposal considerations

**13.1 Waste treatment methods:** Burn in chemical incinerator equipped with an afterburner and scrubber. Disposal must be in accordance with current national and local regulations. Chemical residues generally count as special waste, and their disposal may be regulated in the EC member countries through corresponding laws and regulations. General EU requirements are given in the Waste Framework Directive (75/442/EEC) and the Hazardous Waste Directive (91/689/EEC).

**13.2 Product / Packaging disposal:** Do not dump this material into sewers, on the ground or into any body of water.

## Section 14 Transport information

|                                                                          | Land transport(ADR/RID) | Sea transport (IMDG) | Air transport (ICAO/IATA) |
|--------------------------------------------------------------------------|-------------------------|----------------------|---------------------------|
| UN-Number                                                                | 1161                    | 1161                 | 1161                      |
| UN Proper shipping name                                                  | Dimethyl carbonate      | Dimethyl carbonate   | Dimethyl carbonate        |
| Transport hazard Class                                                   | 3                       | 3                    | 3                         |
| Packaging group                                                          | II                      | II                   | II                        |
| Environmental hazards                                                    | No                      | No                   | No                        |
| Special precautions for user                                             | See section 2.2         | See section 2.2      | See section 2.2           |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not regulated           | Not regulated        | Not regulated             |

## Section 15 Regulation information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

Chemical Safety Assessment has been carried out? YES ☐ NO ☒

## Section 16 Other information

### 16.1 Indication of changes:

Version 1.0 Amended by EU No 453/2010

### 16.2 Relevant R- phrases (number and full text):

R11: Highly flammable

**16.3 Training instructions:**

Not applicable.

**16.4 Further information:**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**16.5 Notice to reader:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Author:** Hangzhou CIRS Co., Limited    **Website:** [www.cirs-group.com](http://www.cirs-group.com)    **Tel:** 0571-87206555    **Email:** [info@cirs-group.com](mailto:info@cirs-group.com)

WWW.CHEMBALL.COM