Safety Data Sheet

According to Regulation (EC) No 1907/2006, Annex II,

Amended by COMMISSION REGULATION (EU) 2020/878,

According to REGULATION (EC) No 1272/2008

DIMETHYL CARBONATE

Version 1.0

Issue date: 16-09-2021

Revision date: 16-09-2021 **CIRS SDS Record Number: CSSS-TCO-010-145586**

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:	Nanoform is NOT covered by this SDS.
Identification of the product:	CAS#616-38-6 EC#210-478-4
Index Number:	Not available
REACH registration No.:	Not available

1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.2.1 Identified uses:

Solvents.

PC 0: Other: Batteries

PC 1: Adhesives, sealants

PC 3: Air care products

PC 8: Biocidal products (e.g. disinfectants, pest control)

PC 9a: Coatings and paints, thinners, paint removes

PC 9b: Fillers, putties, plasters, modelling clay

PC 9c: Finger paints

PC 18: Ink and toners

PC 19: Intermediate

PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents

PC 21: Laboratory chemicals

PC 27: Plant protection products

PC 28: Perfumes, fragrances

PC 29: Pharmaceuticals

PC 31: Polishes and wax blends

PC 32: Polymer preparations and compounds

PC 35: Washing and cleaning products

PC 39: Cosmetics, personal care products

SU 0: Other: Equipment etc located in a range of industries

SU 0: Other: Use by professional workers in laboratories rather than workers in industry

SU 0: Other: Used across a range of sectors

SU 0: Other: Use in diverse industry types

SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)

SU 9: Manufacture of fine chemicals

SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU 12: Manufacture of plastics products, including compounding and conversion

SU 16: Manufacture of computer, electronic and optical products, electrical equipment

SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

SU 18: Manufacture of furniture

SU 19: Building and construction work

SU 20: Health services

SU 24: Scientific research and development

1.2.2 Uses advised against:

No uses advised against are identified.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative):	Chemical Inspection & Regulation Service Limited
Supplier(Manufacturer):	Shinghwa Amperex Technology(Dongying) Co., Ltd
Address:	No 198, Tongxing Road, Kenli District,Dongying City,Shandong
Contact person(E-mail):	Province, China 257061
Telephone:	andy@sinodmc.com
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1.4 Emergency telephone Number:

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Poison Centre

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GERMANY

Poison Center Berlin - Institute of Toxicology

Tel: +49 030 192 40

Available outside office hours?	YES		NO	X

Section 2 Hazards Identification

2.1 Classification of the substance or mixture:

2.1.1 Classification of the substance:

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

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Flam. Liq. 2	H225

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

2.2 Label elements:

Hazard pictogram(s):

Signal word: Danger

Hazard statement(s): H225: Highly flammable liquid and vapour.

Precautionary statement(s): P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof [electrical/ventilating/lighting …] equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P280: Wear protective 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 [or shower].
P370 + P378: In case of fire: Use CO_2, powder or water spray to extinguish.
P403 + P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental Hazard information (EU) Not applicable.

2.3 Other hazards:

The substance is not PBT / vPvB.

The substance is not identified as having endocrine disrupting properties.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration	Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
dimethyl carbonate	01-2119548399-23-xxxx	616-38-6	210-478-4	99.5-99.99%	N/A
water	N/A	7732-18-5	231-791-2	0.002-0.05%	N/A

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Supply fresh air; consult doctor in case of complaints.

4.1.2 In case of skin contact:

Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

4.1.3 In case of eyes contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

4.1.4 In case of ingestion:

Rinse out mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting; call for medical help immediately.

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

The product is not classified as harmful to human health effect.

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

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media: CO_2, powder or water spray. Fight larger fires with water spray or alcohol

resistant foam.

Unsuitable extinguishing media: Water with full jet.

5.2 Special hazards arising from the substance or mixture In case of fire, the following can be released: Oxides of carbon.

5.3 Advice for firefighters: Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Use respiratory protective device against the effects of fumes/dust/aerosol. Avoid breathing vapors, mist or gas. Avoid contact with eyes. Avoid contact with skin.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if vapour is generated.

6.2 Environmental Precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for Containment and Cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

6.4 Reference to other sections: See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures: Ensure good ventilation/exhaustion at the workplace. Keep receptacles tightly sealed. Keep away from heat and direct sunlight. Prevent formation of aerosols. Avoid contact with skin and eyes. Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

7.1.2 Advice on general occupational hygiene: Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities: Store in a cool location. Store only in the original receptacle. Store away from foodstuffs. Store away from flammable substances. Store away from oxidising agents. Store away from reducing agents. Keep container tightly sealed. Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s): Not applicable.

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:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=34.9 mg/m³
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=5 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=8.7 mg/m³
General Population - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=2.5 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=2.5 mg/kg bw/day
Hazard for aquatic organisms	Freshwater	PNEC=0.5 mg/L
Hazard for aquatic organisms	Marine water	PNEC=0.05 mg/L
Hazard for aquatic organisms	STP	PNEC=188 mg/L

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Tightly sealed goggles.

Skin protection

Hand protection: Protective gloves.

Body protection: Standard work wear and safety boots for normal handling and use.

Respiratory protection: Suitable respiratory protective device recommended.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid
Colour:	Colorless
Odour:	Slightly irritating
Odour threshold:	Not available
pH:	7.6 (50 g/l, 20 °C)
Melting point/range (°C):	4.65 °C
Boiling point/range (°C):	363.35 K
Flash point (°C):	16.7 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not applicable
Ignition temperature (°C):	Not available
Upper/lower explosive limits:	21.3 Vol % / 3.8 Vol %
Vapour pressure (25°C):	7570.4 Pa (298.15 K)
Vapour density:	3.1
Density:	1.06 g/cm³ (298.15 K)
Bulk density (kg/m³):	Not available
Water solubility (g/l):	114.7 g/L (20 °C)
n-Octanol/Water (log Po/w):	0.354 (20 °C)
Auto-ignition temperature:	458 °C
Decomposition temperature:	>380 °C
Viscosity, dynamic (mPa.s):	0.585 mPa s (298.15K)
Explosive properties:	Product is not explosive. However, formation of explosive air/ vapor mixtures are possible.
Oxidising properties:	Not available
Molecular Formula:	$C_4H_8O_3$
Molecular Weight:	104.1

9.2. Other information:

Fat solubility(solvent-oil to be specified) etc:	Not available
Surface tension:	31.93 mN/m (0 °C)
Dissociation constant in water(pKa):	Not available

Oxidation-reduction Potential:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials. High temperatures. Proximity to sources of ignition.
10.5 Incompatible materials:	Acids, bases, oxidizing and reducing agents.
10.6 Hazardous decomposition products:	Oxides of carbon.

Section 11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity:	
LD50(Oral, Rat):	> 5000 mg/kg bw
LD50(Dermal, Rabbit):	> 2000 mg/kg bw
LC50(Inhalation, Rat):	> 5.36 mg/L 4 h
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
Aspiration hazard:	Not classified

11.2 Information on other hazards

Endocrine disrupting properties	The substance is not identified as having endocrine disrupting properties.
Other information	Not applicable

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:	
LC50(96h, Fish):	>= 100 mg/L
EC50(48h, Crustacea):	> 100 mg/L
EC50(72h, Algae/aquatic plants):	> 100 mg/L
Chronic (long-term) toxicity:	
NOEC(Fish):	Not available
NOEC(Crustacea):	25 mg/L
NOEC(Algae/aquatic plants):	>= 100 mg/L
12.2 Persistence and degradability:	Readily biodegradable
12.3 Bioaccumulative potential:	BCF: < 3.2 L/kg
12.4 Mobility in soil:	Koc: 2.9 - 6.65 (25 °C)
12.5 Results of PBT and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Endocrine disrupting properties:	The substance is not identified as having endocrine disrupting properties.
12.7 Other adverse effects:	Not available.

12.8 Additional information Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

Section 14 Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
14. 1 UN number or ID number	UN1161	UN1161	UN1161	UN1161
14.2 UN Proper shipping name	DIMETHYL CARBONATE	DIMETHYL CARBONATE	DIMETHYL CARBONATE	DIMETHYL CARBONATE
14.3 Transport hazard Class(es)	3	3	3	3
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No	No	No	No
14.6 Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
14.7 Maritime transport in bulk according to IMO instruments	IBC02	IBC02	IBC02	IBC02

Section 15 Regulatory 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

15.2 Chemical safety assessment YES [X] NO [ ]

Section 16 Other information

16.1 Indication of changes:

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Flam. Liq. 2	H225	On basis of test data

16.5 Relevant H-statements (number and full text):

H225: Highly flammable liquid and vapour.

16.6 Training instructions:

Not applicable.

16.7 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.

16.8 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.

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