

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 24.05.2023

Version number 4 (replaces version 3)

Revision: 24.05.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name:

G-COAT PLUS
Nanoform

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

No further relevant information available.

Application of the substance / the mixture *Auxiliary for dental technology*

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

GC EUROPE N.V.

Interleuvenlaan 33

B-3001 Leuven

Tel. +32/(0)16/74.10.00

Fax +32/(0)16/40.26.84

msds@gc.dental

Information department: Regulatory affairs

1.4 Emergency telephone number: International: +01-813-248-0585 (ChemTel Inc.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Repr. 2 H361f Suspected of damaging fertility.
STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labeled according to the CLP regulation.

Exemptions

The product, regulated as an invasive medical device by the Regulation (EC) 2017/745, is exempted from labelling requirements for substances and mixtures (according to the provision of the Art 1.5).

Hazard pictograms



GHS02 GHS07 GHS08

Signal word *Danger*

Hazard-determining components of labeling:

Methyl methacrylate
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

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· Hazard statements*H225 Highly flammable liquid and vapour.**H315 Causes skin irritation.**H317 May cause an allergic skin reaction.**H361f Suspected of damaging fertility.**H335 May cause respiratory irritation.***· Precautionary statements***P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**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/shower.**P308+P313 IF exposed or concerned: Get medical advice/attention.**P321 Specific treatment (see on this label).**P362+P364 Take off contaminated clothing and wash it before reuse.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· 2.3 Other hazards****· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterization: Mixtures**· Description:**

Only substances required to be mentioned according to Annex II of regulation 1907/2006 are listed. Information on the other substances that may be present can be obtained upon request.

· Dangerous components:

80-62-6	Methyl methacrylate	50-<75%
	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	
7631-86-9	silicon dioxide	10-<25%
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	≥3-<5%
	Repr. 2, H361f	
85590-00-7	methacryloyloxydecyl dihydrogen phosphate	1-<2.5%
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures**· General information:***Immediately remove any clothing soiled by the product.**If symptoms persist consult doctor.***· After inhalation:***Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.**Take affected persons into fresh air and keep quiet.***· After skin contact:***Immediately wash with water and soap and rinse thoroughly.*

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*Seek medical treatment.**If skin irritation continues, consult a doctor.***· After eye contact:***Rinse opened eye for several minutes under running water.**If symptoms persist consult doctor.***· After swallowing:***Rinse out mouth and then drink plenty of water.**If symptoms persist consult doctor.***· 4.2 Most important symptoms and effects, both acute and delayed Allergic reactions****· 4.3 Indication of any immediate medical attention and special treatment needed***No further relevant information available.***SECTION 5: Firefighting measures****· 5.1 Extinguishing media****· Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.**· For safety reasons unsuitable extinguishing agents:** Water**· 5.2 Special hazards arising from the substance or mixture***Formation of toxic gases is possible during heating or in case of fire.**No further relevant information available.***· 5.3 Advice for firefighters****· Protective equipment:** Wear self-contained respiratory protective device.**· Additional information***Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.***SECTION 6: Accidental release measures****· 6.1 Personal precautions, protective equipment and emergency procedures***Remove persons from danger area.**Keep away from ignition sources**Avoid contact with the eyes and skin.**Wear protective clothing.***· 6.2 Environmental precautions:***Do not allow product to reach sewage system or any water course.**Inform respective authorities in case of seepage into water course or sewage system.**Do not allow to penetrate the ground/soil.**In case of seepage into the ground inform responsible authorities.***· 6.3 Methods and material for containment and cleaning up:***Ensure adequate ventilation.**Absorb liquid components with liquid-binding material.**Dispose of the collected material according to regulations.***· 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 disposal information.***SECTION 7: Handling and storage****· 7.1 Precautions for safe handling***Ensure good ventilation/exhaustion at the workplace.*

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*Prevent formation of aerosols.**Avoid contact with the eyes and skin.***· Information about protection against explosions and fires:***Keep ignition sources away - Do not smoke.**Protect against electrostatic charges.**Do not spray on a naked flame or any incandescent material.***· 7.2 Conditions for safe storage, including any incompatibilities****· Storage:****· Requirements to be met by storerooms and receptacles:***Store in a cool location.**Store only in unopened original receptacles.***· Information about storage in one common storage facility:** *Store away from foodstuffs.***· Further information about storage conditions:***Keep receptacle tightly sealed.**Store in cool, dry conditions in well sealed receptacles.**Protect from heat and direct sunlight.**Store in a cool place.***· 7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters**· Components with limit values that require monitoring at the workplace:****80-62-6 Methyl methacrylate***IOELV Short-term value: 100 ppm**Long-term value: 50 ppm***· DNELs****80-62-6 Methyl methacrylate***Dermal DNEL dermal 13.67 mg/kg bw/day (man) (worker, l. te., syst.)**Inhalative DNEL inhalation 208 mg/m3 (air) (worker, l. te., syst.)***· Additional information:** *The lists that were valid during the creation were used as basis.***· 8.2 Exposure controls****· Additional information about design of technical systems:** *No further data; see section 7.***· Personal protective equipment:****· General protective and hygienic measures:***The usual precautionary measures for handling chemicals should be followed.**Avoid contact with the eyes and skin.**Wash hands before breaks and at the end of work.**Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing.***· Breathing equipment:** *Suitable respiratory protective device recommended.***· Protection of hands:***Protective gloves***· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Fluid

· **Color:**

Light yellow

· **Odor:**

Ester-like

· **Odor threshold:**

Not determined.

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

100 °C

· **Flammability (solid, gaseous):**

Highly flammable.

· **Explosion limits:**

· **Lower:**

2.1 Vol %

· **Upper:**

12.5 Vol %

· **Flash point:**

9 °C

· **Auto igniting:**

Undetermined.

· **Decomposition temperature:**

Not determined.

· **pH-value:**

Not determined.

· **Viscosity:**

· **Kinematic:**

Not determined.

· **Dynamic at 20 °C:**

20 mPas

· **Solubility in / Miscibility with**

· **Water:**

Insoluble.

· **Partition coefficient (n-octanol/water):**

Not determined.

· **Vapor pressure:**

Not determined.

· **Density and/or relative density**

· **Density:**

Not determined.

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **Particle characteristics**

SiO₂: Diameter particle structure = 2.5 - 50 nm (TEM, d50, number-based)

Diameter agglomerate = 5 - 50 µm (laser diffraction dry module, d50, volume based)

7631-86-9 silicon dioxide: Spheroidal, amorphous nanoform, set including amorphous nanoforms, amorphous forms, non-surface-treated nanoforms

· **9.2 Other information**

· **Appearance:**

· **Form:**

Liquid

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· **Important information on protection of health and environment, and on safety.**

- | | |
|--------------------------------|---|
| · Ignition temperature: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Solvent content: | |
| · VOC (EC) | 0.0 g/l |
| · Change in condition | |
| · Evaporation rate | Not determined. |

· **Information with regard to physical hazard classes**

- | | |
|--|-------------------------------------|
| · Explosives | Void |
| · Flammable gases | Void |
| · Aerosols | Void |
| · Oxidising gases | Void |
| · Gases under pressure | Void |
| · Flammable liquids | Highly flammable liquid and vapour. |
| · Flammable solids | Void |
| · Self-reactive substances and mixtures | Void |
| · Pyrophoric liquids | Void |
| · Pyrophoric solids | Void |
| · Self-heating substances and mixtures | Void |
| · Substances and mixtures, which emit flammable gases in contact with water | Void |
| · Oxidising liquids | Void |
| · Oxidising solids | Void |
| · Organic peroxides | Void |
| · Corrosive to metals | Void |
| · Desensitised explosives | Void |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

80-62-6 Methyl methacrylate

Oral	LD50	6,000 mg/kg (rabbit)
Dermal	LD50	>5,000 mg/kg (rab)
Inhalative	LC50/4 h	29.8 mg/l (rat (f+m))

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7631-86-9 silicon dioxide

Oral	LD50	10,000 mg/kg (rat (f+m))
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- **on the skin:** Causes skin irritation.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Suspected of damaging fertility.
- **Specific target organ toxicity - single exposure** May cause respiratory irritation.
- **Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**

· OSHA-Ca (Occupational Safety & Health Administration)
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None of the ingredients is listed.

- **Repeated dose toxicity** No further relevant information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
No further relevant information available.
- **11.2 Information on other hazards**

· Endocrine disrupting properties
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128-37-0	Butylated hydroxytoluene	List II
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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

18 00 00	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)
18 01 00	wastes from natal care, diagnosis, treatment or prevention of disease in humans

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18 01 06* chemicals consisting of or containing hazardous substances

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN1247
· 14.2 UN proper shipping name	
· DOT	Methyl methacrylate monomer, stabilized
· ADR	1247 METHYL METHACRYLATE MONOMER, STABILIZED
· IMDG, IATA	METHYL METHACRYLATE MONOMER, STABILIZED
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	3 (F1) Flammable liquids
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids
· Label	3
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	C
· Stowage Code	SW1 Protected from sources of heat. SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Temperature control is not required, in regards to Special Provision 386. Product uses chemical stabilization.

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· ADR	1L
· Limited quantities (LQ)	Code: E2
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
<hr/>	
· IMDG	1L
· Limited quantities (LQ)	Code: E2
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

- **Section 313 (Specific toxic chemical listings):**

80-62-6 Methyl methacrylate

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

80-62-6 Methyl methacrylate

E, NL

- **TLV (Threshold Limit Value)**

80-62-6 Methyl methacrylate

A4

128-37-0 Butylated hydroxytoluene

A4

- **MAK (German Maximum Workplace Concentration)**

128-37-0 Butylated hydroxytoluene

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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
- None of the ingredients is listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
- None of the ingredients is listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
- None of the ingredients is listed.
- **Regulation (EC) No 273/2004 on drug precursors**
- None of the ingredients is listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
- None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

- **Relevant phrases**
- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H361f Suspected of damaging fertility.
- **Classification according to Regulation (EC) No 1272/2008** Calculation method
- **Department issuing SDS:** Regulatory affairs
- **Contact:** msds@gc.dental
- **Date of previous version** 11.03.2022
- **Version number of previous version:** 3
- **Abbreviations and acronyms:**
- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- DNEL: Derived No-Effect Level (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic

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vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 Flam. Liq. 2: Flammable liquids – Category 2
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Skin Sens. 1: Skin sensitisation – Category 1
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources

- ECHA (<http://echa.europa.eu/>)
- EnviChem (www.echemportal.org)

*** Data compared to the previous version altered.**

This version replaces all previous versions.

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