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

Printing date 19.07.2023

*Version number 6 (replaces version 5)* 

Revision: 19.07.2023

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

• 1.1 Product identifier

· Trade name: G-aenial Bond

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.	
	Eye Irrit. 2	H319 Causes serious eye irritation.	
	Skin Sens. 1	H317 May cause an allergic skin reaction.	
	STOT SE 3	H336 May cause drowsiness or dizziness.	
	Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.	

· 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



· Signal word Danger

• Hazard-determining components of labeling: acetone

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2,2'-ethylenedioxydiethyl dimethacrylate	
· Hazard statements	
H225 Highly flammable liquid and vapour.	
H315 Causes skin irritation.	
H319 Causes serious eye irritation.	
H317 May cause an allergic skin reaction.	
H336 May cause drowsiness or dizziness.	
H412 Harmful to aquatic life with long lasting effects.	
· Precautionary statements	
P210 Keep away from heat/sparks/open flames/hot surfaces No smokin	g.
P280 Wear protective gloves/protective clothing/eye protection/face protection	
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clother	ing. Rinse skin with water/
shower.	0
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remov	ve contact lenses, if present
and easy to do. Continue rinsing.	
P405 Store locked up.	
<i>P501</i> Dispose of contents/container in accordance with local/region regulations.	nal/national/international
· Additional information:	
Product contains: Reportable explosives precursors. Making available, introduce according to Regulation (EU) 2019/1148, Article 9.	ction, possession and use
· 2.3 Other hazards	
· Results of PBT and vPvB assessment	
· <b>PBT:</b> Not applicable.	
• <b>vPvB:</b> Not applicable.	
· Determination of endocrine-disrupting properties	
128-37-0 Butylated hydroxytoluene	List II

## 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.

0	components:	
67-64-1	acetone	25-<50%
	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	
1830-78-0	2-Hydroxy-1,3 dimethacryloxypropane	≥10-<20%
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
85590-00-7	methacryloyloxydecyl dihydrogen phosphate	5-<10%
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
109-16-0	2,2'-ethylenedioxydiethyl dimethacrylate	5-<10%
	Skin Sens. 1, H317	
68611-44-9	Silane, dichlorodimethyl-, reaction products with silica	2.5-<5%
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	1-<2.5%
	Repr. 2, H361f	
128-37-0	Butylated hydroxytoluene	0.5-<1%
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410 (II)	
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0.5-<1%

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1344-28-1 aluminium oxide

• 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.

Seek medical treatment.

If skin irritation continues, consult a doctor.

• After eye contact:

Protect unharmed eye.

Rinse opened eye for several minutes under running water. Then consult a 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.

· For safety reasons unsuitable extinguishing agents: Water with full jet

• 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.

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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. 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:

67-64-1 acetone

IOELV Long-term value: 1210 mg/m<sup>3</sup>, 500 ppm

· DNELs

#### 128-37-0 Butylated hydroxytoluene

Dermal DNEL dermal 0.5 mg/kg bw/day (man)

Inhalative DNEL inhalation 3.5 mg/m3 (man)

• 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.

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# (Contd. of page 4) · 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. · 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

9.1 Information on basic physical and chemica	l properties	
General Information		
Physical state	Fluid	
Color:	Light yellow	
Odor:	Ester-like	
Odor threshold:	Not determined.	
Melting point/Melting range:	-95 °C	
Boiling point/Boiling range:	56 °C	
Flammability (solid, gaseous):	Highly flammable.	
Explosion limits:		
Lower:	2.6 Vol %	
Upper:	13 Vol %	
Flash point:	-17 °C	
Auto igniting:	Undetermined.	
Decomposition temperature:	Not determined.	
pH-value:	Not determined.	
Viscosity:		
Kinematic:	Not determined.	
Dynamic:	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/water):	Not determined.	

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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 (TEI)
	d50, number-based)
	Diameter agglomerate = $5 - 50$ mm (laser diffraction d
	module, d50, volume based)
	Al2O3: Diameter particle structure = $2 - 100$ nm (d5
	number-based)
	68611-44-9 Silane, dichlorodimethyl-, reaction produc
	with silica: Spheroidal, amorphous nanoform, s
	including amorphous nanoforms, amorphous form
	surface-treated nanoforms
	1344-28-1 aluminium oxide: Spheroidal, crystallin
	nanoform, crystalline forms, non-surface-treate
	nanoforms
9.2 Other information	
Appearance:	
Form:	Liquid
Important information on protection of hea environment, and on safety.	lth and
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Solvent content:	i rouner uoes nor present un exprosion nuzuru.
Organic solvents:	39.0 %
Water:	20.0 %
VOC (EC)	487.5 g/l
Change in condition	407.5 g/l
Evaporation rate	Not determined.
•	
Information with regard to physical hazard cla Explosives	sses 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
Seij-nealing substances and mixtures Substances and mixtures, which emit flammab	
substances and mixtures, which emit flammab in contact with water	Void
Oxidising liquids	Void Void
Oxidising solids	Void Void
	Void
Organic peroxides Corrosive to metals	Void

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· 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:

#### 67-64-1 acetone

*Oral LD50 5,800 mg/kg (rat (f+m))* 

Dermal LD50 20,000 mg/kg (rabbit)

128-37-0 Butylated hydroxytoluene

Oral LD50 >6,000 mg/kg (rat (f+m)) (OECD 401)

• on the skin: Causes skin irritation.

• on the eye: Causes serious eye irritation.

• 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 Based on available data, the classification criteria are not met.* 

· Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

• 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)

None of the ingredients is listed.

· *Repeated dose toxicity No further relevant information available.* 

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

No further relevant information available.

· 11.2 Information on other hazards

· Endocrine disrupting properties

128-37-0 Butylated hydroxytoluene

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List II

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## **SECTION 12: Ecological information**

· 12.1 Toxicity

· Aquatic toxicity:

128-37-0 Butylated hydroxytoluene

EC50/48h (static) 0.48 mg/l (daphnia magna) (OECD 202)

· 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
- · Remark: Harmful to fish
- 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.

Harmful to aquatic organisms

### **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

1	2m openn music emmegne	
	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	
18 01 06*	chemicals consisting of or containing hazardous substances	

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

· 14.1 UN-Number		
· ADR, IMDG, IATA	UN1090	
· 14.2 UN proper shipping name		
· DOT	Acetone	
· ADR	1090 ACETONE	
· IMDG, IATA	ACETONE	

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14.3 Transport hazard class(es)	
ADR	
Class Label	3 (F1) Flammable liquids 3
IMDG, IATA	5
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 Hazard identification number (Kemler code): EMS Number: Stowage Category	Warning: Flammable liquids 33 F-E,S-D E
14.7 Transport in bulk according to Annex II o MARPOL73/78 and the IBC Code	of Not applicable.
Transport/Additional information:	
ADR Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml
Transport category Tunnel restriction code	Maximum net quantity per outer packaging: 500 ml 2 D/E
IMDG Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1090 ACETONE, 3, II

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#### **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):

1344-28-1 aluminium oxide

· 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)

67-64-1 acetone

· TLV (Threshold Limit Value)

67-64-1 acetone

128-37-0 Butylated hydroxytoluene

1344-28-1 aluminium oxide

· MAK (German Maximum Workplace Concentration)

128-37-0 Butylated hydroxytoluene

1344-28-1 aluminium oxide

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

None of the ingredients is listed.

· 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.

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#### · Annex II - REPORTABLE EXPLOSIVES PRECURSORS

67-64-1 acetone

· Regulation (EC) No 273/2004 on drug precursors

67-64-1 acetone

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

67-64-1 acetone

• 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.

H336 May cause drowsiness or dizziness.

H361f Suspected of damaging fertility.

*H400 Very toxic to aquatic life.* 

*H410 Very toxic to aquatic life with long lasting effects.* 

EUH066 Repeated exposure may cause skin dryness or cracking.

· Classification according to Regulation (EC) No 1272/2008 Calculation method

- · Department issuing SDS: Regulatory affairs
- · Contact: msds@gc.dental

• Date of previous version 09.05.2022

• Version number of previous version: 5

• 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 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 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

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#### · Sources

• ECHA (http://echa.europa.eu/)

• EnviChem (www.echemportal.org)

• \* Data compared to the previous version altered.

*This version replaces all previous versions. Disclaimer:* 

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