

Printing date 02.08.2018 Version number 3 Revision: 21.06.2017

SECTION 1: Identification

- · 1.1 Product identifier
- · Trade name: GC Unifast III Liquid
- · 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: Hazard(s) identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008

Exempt from requirements - product regulated as a medical device or an in vitro diagnostic medical device.

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. STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

Exempt from requirements - product regulated as a medical device or an in vitro diagnostic medical device. The product is classified and labeled according to the CLP regulation.

· Hazard pictograms





GHS02

GHS07

- · Signal word Danger
- · Hazard-determining components of labeling:

Methyl methacrylate

Ethyleneglycol dimethacrylate

2-(2H-benzotriazol-2-yl)-p-cresol

· Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

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H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves / eye protection / face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

[or shower].

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.

80-62-6	Methyl methacrylate	75-<90%
	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	
99-97-8	N,N-dimethyl-p-toluidine	2.5-<5%
	Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT RE 2, H373; Aquatic Chronic 3, H412	
97-90-5	Ethyleneglycol dimethacrylate	1-<2.5%
	Skin Sens. 1, H317; STOT SE 3, H335	
3290-92-4	Propylidynetrimethyl trimethacrylate	1-<2.5%
	Aquatic Chronic 2, H411	
2440-22-4	2-(2H-benzotriazol-2-yl)-p-cresol	0.5-<1%
	Acute Tox. 2, H330; Aquatic Chronic 1, H410; Skin Sens. 1, H317	
128-37-0	Butylated hydroxytoluene	0.5-<1%
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
1879-09-0	6-tert-butyl-2,4-xylenol	
	Acute Tox. 2, H310; STOT RE 2, H373; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

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

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SECTION 4: First-aid measures

· 4.1 Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

If symptoms persist consult doctor.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Do not use mouth to mouth or mouth to nose resuscitation.

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:

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: Fire-fighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water
- \cdot 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

- · 5.3 Advice for firefighters
- · Protective equipment:

Mouth respiratory protective device.

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.

Do not allow to penetrate the ground/soil.

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· 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

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters

· Componen	· Components with limit values that require monitoring at the workplace:				
80-62-6 M	80-62-6 Methyl methacrylate				
	IOELV Short-term value: 100 ppm				
Lo	Long-term value: 50 ppm				
· DNELs	· DNELs				
80-62-6 M	80-62-6 Methyl methacrylate				
Dermal	Dermal DNEL dermal 13.67 mg/kg bw/day (man) (worker, l. te., syst.)				
Inhalative	$DNEL\ in halation$	208 mg/m3 (air) (worker, l. te., syst.)			
128-37-0 E	128-37-0 Butylated hydroxytoluene				
Dermal	DNEL dermal	0.5 mg/kg bw/day (man)			
Inhalative	Inhalative DNEL inhalation 3.5 mg/m3 (man)				

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1879-09-0 6-tert	-butyl-2,4-xylenol
Inhalative DNE	Linhalation 0.14 mg/m3 (man)
· PNECs	
99-97-8 N,N-din	nethyl-p-toluidine
PNEC Aqua	152.59 μg/L (freshwater)
3290-92-4 Propy	lidynetrimethyl trimethacrylate
PNEC Air	- mg/L (air)
PNEC Aqua	2.76 μg/L (freshwater)
	20 μg/L (intermittent releases)
	0.276 μg/L (marine water)
PNEC Predator	- mg/kg (Predator)
PNEC STP	10 mg/L (Sewage Treatment Plants)
PNEC Sediment	0.4951 mg/kg sed dw (freshwater)
	0.04951 mg/kg sed dw (marine water)
PNEC Soil	0.0974 mg/kg soil dw (soil)

- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · 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.

Store protective clothing separately.

- · 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

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SECTION 9: Physical and chemical properties			
9.1 Information on basic physical and chemical properties			
General Information			
Appearance:			
Form:	Liquid		
Color:	Clear		
Odor:	Characteristic		
Odor threshold:	Not determined.		
pH-value:	Not determined.		
Change in condition			
Melting point/Melting range:	Undetermined.		
Boiling point/Boiling range:	100 °C		
Flash point:	10 °C		
Flammability (solid, gaseous):	Not applicable.		
Ignition temperature:	Undetermined.		
Decomposition temperature:	Not determined.		
Auto igniting:	Product is not selfigniting.		
Danger of explosion:	Product does not present an explosion hazard.		
Explosion limits:			
Lower:	2.1 Vol %		
Upper:	12.5 Vol %		
Vapor pressure:	Not determined.		
Density at 20 °C:	0.9 g/cm³		
Relative density	Not determined.		
Vapor density	Not determined.		
Evaporation rate	Not determined.		
Solubility in / Miscibility with			
Water:	Insoluble.		
Partition coefficient (n-octanol/wat	t er): Not determined.		
Viscosity:			
Dynamic:	Not determined.		
Kinematic:	Not determined.		
Solvent content:			
VOC (EC)	0.0 g/l		
9.2 Other information	No further relevant information available.		

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.

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- · 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 v	· LD/LC50 values that are relevant for classification:		
80-62-6 M	ethyl meth	acrylate	
Oral	LD50	6000 mg/kg (rabbit)	
Dermal	LD50	>5000 mg/kg (rab)	
Inhalative	LC50/4 h	29.8 mg/l (rat (f+m))	
99-97-8 N,	N-dimethy	rl-p-toluidine	
Oral	LD50	1650 mg/kg (rat (f+m))	
Dermal	LD50	>2000 mg/kg (rabbit)	
Inhalative	LC50/4 h	1.4 mg/l (rat (f+m))	
97-90-5 Et	97-90-5 Ethyleneglycol dimethacrylate		
Oral	LD50	8700 mg/kg (rat (f+m))	
Dermal	LD50	>2000 mg/kg (rat (f+m))	
2440-22-4	2-(2H-ben	nzotriazol-2-yl)-p-cresol	
Oral	LD50	10000 mg/kg (rat (f+m))	
Inhalative	Inhalative $ LC50/4 h = 0.59 \text{ mg/l (rat (f+m))}$		
128-37-0 B	Butylated h	ydroxytoluene	
Oral	Oral $LD50$ > 6000 mg/kg (rat (f+m)) (OECD 401)		
1879-09-0	1879-09-0 6-tert-butyl-2,4-xylenol		
Oral	LD50	910 mg/kg (rat (f+m)) (OECD 401)	
Dermal	LD50	< 200 mg/kg (rabbit) (OECD 402)	

- · Primary irritant effect:
- · 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.

· 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.

- · 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.
- · STOT-single exposure

May cause respiratory irritation.

· STOT-repeated exposure Based on available data, the classification criteria are not met.

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· Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:	
99-97-8 N,N-dimethy	vl-p-toluidine
LC50/96h	46 mg/L (fish)

3290-92-4 Propylidynetrimethyl trimethacrylate

LC50/96h (dynamic) > 1 mg/L (Oncorhvnchus mykiss) (OECD Guideline 203 (Fish, Acute Toxicity Test))

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.
- · Ecotoxical effects:
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

Harmful to aquatic organisms

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

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	i		-	<u> </u>
	WASTES FROM HU kitchen and restaura				R RELATED RESEARCH (except re)
18 01 00	wastes from natal ca	re, diagnosis, tred	atment or p	revention of diseas	e in humans
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

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· 14.2 UN proper shipping name · DOT · ADR · IMDG, IATA	Methyl methacrylate monomer, stabilized 1247 METHYL METHACRYLATE MONOMER, STABILIZEI METHYL METHACRYLATE MONOMER, STABILIZED
· 14.3 Transport hazard class(es)	
· ADR	
· Class · Label	3 (F1) Flammable liquids 3
· IMDG, IATA	
Class Label	3 Flammable liquids 3
· 14.4 Packing group · ADR, IMDG, IATA	II
14.5 Environmental hazards: Marine pollutant:	No
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Flammable liquids 339 F-E,S-D
14.7 Transport in bulk according to Anne MARPOL73/78 and the IBC Code	x II of Not applicable.
Transport/Additional information:	The appreciates
· 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 1247 METHYL METHACRYLATE MONOME STABILIZED, 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):

80-62-6 Methyl methacrylate

- · Proposition 65
- · Chemicals known to cause cancer:

99-97-8 N,N-dimethyl-p-toluidine

· 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 established by ACGIH)
- 80-62-6 Methyl methacrylate

A4

128-37-0 Butylated hydroxytoluene

1---

A4

· MAK (German Maximum Workplace Concentration)

128-37-0 Butylated hydroxytoluene

4

· 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
- · 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.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

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H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

- · Classification according to Regulation (EC) No 1272/2008 Calculation method
- · Department issuing SDS: Regulatory affairs
- · Contact: msds@gc.dental
- · Abbreviations and acronyms:

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

PNEC: Predicted No-Effect Concentration (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

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – 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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - 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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