# **SAFETY DATA SHEETS**

# This SDS packet was issued with item: 072977411

# The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

072056109 072056117 072056125 072056133 072056141 072056158 072056166 072056174 072056182 072056190 072056208 072056216 072056224 072056232 072056240 072056257 072056265 072056273 072056281 072056299 072056307 072056315 072056323 072056331 072056349 072056356 072056364 072056372 072056380 072056398 072056406 072056414 072056422 072056430 072056448 072056455 072056463 072056471 072056489 072056497 072056505 072056513 072056521 072056539 072056547 072056554 072056562 072056570 072056588 072056596 072056604 072056612 072056620 072056638 072056646 072056653 072056661 072056679 072056687 072056695 072056703 072977320 072977338 072977361 072977387 072977403 072977445 072978104 072978351 273004711 273006340 273006342 273006343 273006437 273006444 273007779 273010799 273010800 273010801 273010802 273022315 273022316 273022317 273022318 273022320 273022321 273022322 273022326 273022327



## **GRADIA DENTIN, ENAMEL & TRANSLUCENT** MATERIAL SAFETY DATA SHEET

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SECTION 1 - SOURCE/IDENTITY/USE INFORMATION

#### DISTRIBUTOR

GC AMERICA INC. 3737 West 127th St. Alsip, Illinois, 60803 Telephone: 708-597-0900 Hours: Mon.- Fri. 8:00 am. - 5:00 pm. C.S.T. Transportation Emergency No. 800-424-9300

**COMMON NAME:** Gradia Dentin, Enamel and Translucent CHEMICAL NAME: N.A. **PRODUCT USE:** Dental crown and bridge work - translucent dentin or enamel

The following information is provided with regard to the toxicity and hazards of the pure components present in this product. SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENT	C.A.S.	EXPOSURE LIMITS	LD50/LC50	%
Alumino-silicate glass	(Not listed)	TLV=10mg/m <sup>3</sup>	N.E	40-50
		PEL=15mg/m <sup>3</sup>		
		(ACGIH)		
Amorphous Precipitated Silica	112926-00-8	PEL=0.1mg/m <sup>3</sup>	LD50=>10000mg/kg	5-10
		TLV/TWA=10mg/m <sup>3</sup>	(oral ratio)	
		(dust) (ACGIH)	LC50= N.E.	
Di-2-Methacryloyloxyethyl	41137-60-4	N.E.	N.E.	15-30
2,2,4-trimethylhexamethylene				
dicarbamate				
Neopentylglycol dimethacrylate	126-30-7	N.E.	N.E.	5-10%

## SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

**BOILING POINT:** N.E. **SPECIFIC GRAVITY:** N.E. N.E. VAPOR PRESSURE: N.E. MELTING POINT: N.E. VAPOR DENSITY: N.E. **EVAPORATION RATE: SOLUBILITY IN WATER:** Insoluble or difficult to dissolve ODOR THRESHOLD: N.E. COEFFICIENT OF OIL/WATER DISTRIBUTION: N.E. **APPEARANCE AND ODOR:** Paste and ester-like

#### **SECTION 4 - FIRE AND EXPLOSION DATA**

FLAMMABLE LIMITS: N.E. FLASH POINT: 101°C EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical SPECIAL FIRE FIGHTING PROCEDURES: N.A. UNUSUAL FIRE AND EXPLOSION HAZARDS: N.A. HAZARDOUS COMBUSTION PRODUCTS: N.E.

#### **SECTION 5 - REACTIVITY DATA**

STABILITY: Stable: POLYMERIZATION: Will Not Occur:

Unstable: Will Occur:

CONDITIONS TO AVOID: High heat, high humidity.

INCOMPATIBILITY (MATERIALS TO AVOID): N.A.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: No decomposition if used or stored according to specifications.



Other: N.A.

#### **MS001464**

## **GRADIA DENTIN, ENAMEL & TRANSLUCENT**

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#### SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION

	YES	NO	NE	NA	NTP	IARC	OSHA	OTHER
MUTAGENIC AFFECTS			Х					
TERATOGENIC AFFECTS			Х					
REPRODUCTIVE TOXIN			Х					
CARCINOGENICITY			Х					
SENSITIZER		Х						

ROUTES OF ENTRY: Inhalation Skin Ingestion

HEALTH HAZARD: (ACUTE AND CHRONIC):

SKIN: May cause irritation.

**INGESTION:** May cause toxic affects.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: N.E. Conditions generally aggravated by exposure: N.E.

#### **EMERGENCY FIRST AID PROCEDURES:**

INHALATION: If irritation develops, seek medical attention.EYES: Flush with plenty of water. If irritation develops, seek medical attention.SKIN: Wash with soap and water.INGESTION: Rinse and clear mouth and throat. Seek medical attention.

#### SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Absorb with inert material. Transfer to container for disposal.
 WASTE DISPOSAL METHOD: Dispose of waste in accordance with local, state and federal regulations.
 STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: Store at normal room temperature in a well ventilated area. Avoid direct sunlight.

#### **SECTION 8 - CONTROL MEASURES**

RESPIRATORY PROTECTION: N.A. VENTILATION: Local Exhaust: Yes Mechanical: N.A. Special: N.A. PROTECTIVE GLOVES: N.A. EYE PROTECTION: N.A. OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N.A. WORK/HYGIENIC PRACTICE: Observe good hygienic practices.

#### **SECTION 9 - PREPARATION INFORMATION**

This data is supplied to comply with OSHA Hazard Communication Standard 29 CFR 1910,1200 and W.H.M.I.S. CPR

**DATE:** 09 January 2006 **REVIEWED:** 02 April 2012

## N.A. = NOT APPLICABLE N.E. = NOT ESTABLISHED

The information herein is given in good faith but no warranty expressed or implied is made.

NFPA FIRE - 1 TOXICITY - 1 REACTIVITY - 1 SPECIAL – P



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**1** Identification

· Product identifier

• Trade name: GRADIA (Shade Groups: CT, D, E, EI, HE, OD, ODI, PE, SD, and T - excluding shade T0)

 Relevant identified uses of the substance or mixture and uses advised against Dental material

The product is intended for professional use.

To avoid risks for humans and environment obtain instructions.

- · Application of the substance / the mixture Manufacture of dental prothesis
- · Details of the supplier of the safety data sheet
- Manufacturer/Supplier: GC America Inc. 3737 W. 127th Street Alsip, IL 60803 USA

## sds@gcamerica.com

- · Information department: Regulatory Affairs
- · Emergency telephone number:

During normal opening times (Mon.-Fri. 8:00 AM-5:00 PM CST): +1 (708) 597-0900 Transportation (CHEMTREC®) Emergency Telephone No. +1 (800) 424-9300

## 2 Hazard(s) identification

## · Classification of the substance or mixture

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· Additional information:

The information provided is in regards to the toxicity and hazard rating(s) of the individual component(s) in the formulation. The associated risk(s) depends on the route(s) of exposure. The hazard rating system is based entirely on the existence of the risk(s) and does not take into account the likelihood of reduced risk(s) through proper usage and handling.

## · Label elements

## · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS). • Hazard pictograms



- · Signal word Warning
- **Hazard-determining components of labeling:** urethane dimethacrylate (UDMA) resin\*\*

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Trade name: GRADIA (Shade Groups: CT, D, E, EI, HE, OD, ODI, PE, SD, and T - excluding shade T0)

(Contd. of page 1)

Hazard statements

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.

Precautionary statements

Contaminated work clothing must not be allowed out of the workplace.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

68.9 % of the mixture consists of component(s) of unknown toxicity.

• NFPA ratings (scale 0 - 4)

Health = 1 Fire = 1 Reactivity = 1

· HMIS-ratings (scale 0 - 4)

HEALTH 1	Health = 1
	Fire = 1
REACTIVITY 1	Reactivity = 1

- · Other hazards
- Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.

## 3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

<sup>.</sup> Dangerous	components:	
72869-86-4	urethane dimethacrylate (UDMA)	25-50%
	dimethacrylate**	5-10%
	resin**	< 0.5%

## • Additional information:

If a substance is marked with \*\*, then substance is a trade secret. This is allowed under OSHA's Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

## 4 First-aid measures

## · Description of first aid measures

• General information:

Immediately remove any clothing soiled by the product.

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If symptoms persist consult doctor.

 After inhalation: Supply fresh air; consult doctor in case of complaints. In case of unconsciousness place patient stably in side position for transportation.

- After skin contact: Immediately wash with water and soap and rinse thoroughly. Seek medical treatment.
- 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.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed Allergic reactions

• Indication of any immediate medical attention and special treatment needed No further relevant information available.

## **5** Fire-fighting measures

· 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
- Special hazards arising from the substance or mixture Formation of toxic gases is possible during heating or in case of fire.
- 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.

## 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
 Remove persons from danger area.
 Avoid contact with the eyes and skin.
 Wear protective clothing.

 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.
 Methods and material for containment and cleaning up:
 Absorb liquid components with liquid-binding material.
 Dispose of the collected material according to regulations.
 Reference to other sections
 See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

# 7 Handling and storage

- · Handling:
- **Precautions for safe handling** Observe instructions for use. Avoid contact with the eyes and skin.

· Information about protection against explosions and fires: No special measures required.

- · Storage:
- **Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.
- · Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Observe instructions for use / storage.
- · Specific end use(s) No further relevant information available.

## 8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- **Components with limit values that require monitoring at the workplace:** The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.
- · 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.

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: Safety glasses

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9 Physical and chemical properti	es
<ul> <li>Information on basic physical and che</li> <li>General Information</li> <li>Approxphase</li> </ul>	emical properties
<ul> <li>Appearance:</li> <li>Form:</li> <li>Color:</li> <li>Odor:</li> <li>Odor threshold:</li> </ul>	Pasty According to product specification Ester-like Not determined.
· pH-value:	Not determined.
<ul> <li>Change in condition</li> <li>Melting point/Melting range:</li> <li>Boiling point/Boiling range:</li> </ul>	Undetermined. Undetermined.
· Flash point:	Not applicable.
· 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: Upper:	Not determined. Not determined.
· Vapor pressure:	Not determined.
<ul> <li>Density:</li> <li>Relative density</li> <li>Vapour density</li> <li>Evaporation rate</li> </ul>	Not determined. Not determined. Not determined. Not determined.
<ul> <li>Solubility in / Miscibility with Water:</li> </ul>	Insoluble.
· Partition coefficient (n-octanol/water)	: Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
<ul> <li>Solvent content: Organic solvents:</li> </ul>	0.0 %
Solids content: • Other information	100.0 % No further relevant information available.

# 10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability Stable at ambient temperature.

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- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- · **Incompatible materials:** No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

# **11 Toxicological information**

- · Information on toxicological effects
- Acute toxicity:
- · LD/LC50 values that are relevant for classification: No further relevant information available.
- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- Experience with humans: May cause damage to kidneys. May cause damage to liver.
- Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

## · Carcinogenic categories

· IARC (International Agency for Research on Cancer)	
butylated hydroxytoluene (BHT)	3
titanium dioxide	2B
iron(III) oxide	3
· NTP (National Toxicology Program)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety & Health Administration)	

None of the ingredients is listed.

## · Carcinogenic categories' legend:

IARC Group 1: The agent is carcinogenic to humans.

IARC Group 2A: The agent is probably carcinogenic to humans.

IARC Group 2B: The agent is possibly carcinogenic to humans.

IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.

IARC Group 4: The agent is probably not carcinogenic to humans.

NTP K: Known to be human carcinogen.

NTP R: Reasonably anticipated to be human carcinogen.

# **12 Ecological information**

· Toxicity

• Aquatic toxicity: No further relevant information available.

• Persistence and degradability No further relevant information available.

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- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- · 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.

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

## 13 Disposal considerations

· Waste treatment methods

· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

UN-Number		
DOT, ADR, ADN, IMDG, IATA	Void	
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void	
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA Class	Void	
Packing group DOT, ADR, IMDG, IATA	Void	
Environmental hazards: Marine pollutant:	No	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
UN "Model Regulation":	_	

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## 15 Regulatory information

 $^{\cdot}$  Safety, health and environmental regulations/legislation specific for the substance or mixture  $^{\cdot}$  SARA (Superfund Amendments and Reauthorization Act)

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

• Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

• TSCA (Toxic Substances Control Act):

urethane dimethacrylate (UDMA)

dimethacrylate\*\*

silane\*\*

resin\*\*

organic fluorophore\*\*

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

butylated hydroxytoluene (BHT)

titanium dioxide

iron(III) oxide

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

titanium dioxide

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



· Signal word Warning

- Hazard-determining components of labeling: urethane dimethacrylate (UDMA) resin\*\*
   Hazard statements Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.
- Precautionary statements
   Contaminated work clothing must not be allowed out of the workplace.
   Avoid breathing dust/fume/gas/mist/vapors/spray
   Wear protective gloves.
   Wear eye protection / face protection.

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(Contd. of page 8) If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **16 Other information**

 Department issuing SDS: Regulatory Affairs · Contact: **Regulatory Affairs** Telephone No. +1 (708) 597-0900 sds@gcamerica.com Date of preparation / last revision 03/14/2015 / -Abbreviations and acronyms: GHS: Globally Harmonized System of Classification and Labelling of Chemicals HCS: Hazard Communication Standard (USA) MSDS: Material Safety Data Sheet SDS: Safety Data Sheet ADN: Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways) ECHA: European Chemicals Agency OSHA: Occupational Safety and Health Administration (USA) 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 ACGIH: American Conference of Governmental Industrial Hygienists CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A Skin Sens. 1: Sensitisation - Skin, Hazard Category 1 Sources Manufacturers' MSDSs/SDSs OSHA (https://www.osha.gov/dts/chemicalsampling/toc/chmcas.html) TOXNET (http://toxnet.nlm.nih.gov/) ECHA (http://echa.europa.eu/) EnviChem (www.echemportal.org) · Notes: CAS Registry Number is a Registered Trademark of the American Chemical Society. CHEMTREC® is a registered service mark of the American Chemistry Council, Inc. \* \* Data compared to the previous version altered. This version replaces all previous versions.

#### · Disclaimer:

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our negligence or for fraudulent misrepresentation.

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