

SAFETY DATA SHEETS

This SDS packet was issued with item:

072058386

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

273045788

**G-CEM CAPSULE - LIQUID
MATERIAL SAFETY DATA SHEET****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: G-CEM CAPSULE**CHEMICAL NAME:** N.A.**PRODUCT USE:** Radiopaque, dual curing, self adhesive resin cement in a capsulated form for cementing metal, porcelain fused to metal resin and ceramic restorations. (Liquid component)

The following information is provided with regard to the toxicity and hazards the pure components present in this product.

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENT	C.A.S.	EXPOSURE LIMITS	LD50/LC50	%
Dimethacrylate	N.E.	N.E.	N.E.	50-60
4-META	70293-55-9	N.E.	N.E.	20-30
Urethanedimethacrylate	72869-86-4	N.E.	N.E.	5-10
Phosphoric ester Monomer	N.E.	N.E.	N.E.	1-5

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES**BOILING POINT:** 101 C°**VAPOR PRESSURE:** N.E.**VAPOR DENSITY:** N.E.**SOLUBILITY IN WATER:** Difficult to mix**COEFFICIENT OF OIL/WATER DISTRIBUTION:** N.E.**SPECIFIC GRAVITY:** N.E.**MELTING POINT:** N.E.**EVAPORATION RATE:** N.E.**ODOR THRESHOLD:** N.E.**APPEARANCE AND ODOR:** Ester odor**SECTION 4 - FIRE AND EXPLOSION DATA****FLASH POINT:** N.E.**FLAMMABLE LIMITS:** N.E.**EXTINGUISHING MEDIA:** Chemical foam, carbon dioxide, and dry chemical**SPECIAL FIRE FIGHTING PROCEDURES:** No special measure required**UNUSUAL FIRE AND EXPLOSION HAZARDS:** N.E.**HAZARDOUS COMBUSTION PRODUCTS:** Not known**SECTION 5 - REACTIVITY DATA****STABILITY:**Stable Unstable **POLYMERIZATION:**Will Not Occur Will Occur **CONDITIONS TO AVOID:** May be polymerized by sunlight or heat.**INCOMPATIBILITY (Materials to Avoid):** N.E.**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** None known.**SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION**

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



MS002585

G-CEM CAPSULE - LIQUID

Page 2 of 2

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

ROUTES OF ENTRY: Inhalation Skin Ingestion

HEALTH HAZARD (Acute and Chronic): May cause irritation to eyes, skin and digestive tract

SIGNS AND SYMPTOMS OF OVEREXPOSURE: N.E.

CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N.E.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Supply fresh air and get medical attention if symptoms persist

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. If symptoms persist get medical attention.

SKIN CONTACT: Immediately wash with water and soap and rinse thoroughly.

INGESTION: May cause irritation to digestive tract.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Absorb with liquid binding material. Sand, Diatomite, sawdust

WASTE DISPOSAL METHOD: Do not flush into sewers. Consult local or state regulations regarding proper disposal.

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: No special measures required

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION: Not required

VENTILATION: Local Exhaust: Mechanical: Special: Other:

PROTECTIVE GLOVES: Vinyl / Synthetic gloves

EYE PROTECTION: Tightly sealed goggles

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Not required

WORK/HYGIENIC PRACTICE: Not required

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: 11 December 2006

REVIEWED: 21 February 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.

FIRE –	TOXICITY –	NFPA	REACTIVITY –	SPECIAL –
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SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION - continued

HEALTH HAZARD (Acute and Chronic): Irritant to skin and mucous membrane. Dusts of silica glass is a known cause of silicosis, a non-cancerous lung disease.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: NE

CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NE

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Supply fresh air. Consult doctor in case of complaints.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. If symptoms persist, get medical attention.

SKIN CONTACT: Immediately wash with water and soap and rinse thoroughly

INGESTION: Remove powder left in mouth. If symptoms persist, consult doctor.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: No special measure required

WASTE DISPOSAL METHOD: Consult local or state regulations regarding proper disposal

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: No special measure required

SECTION 8 - CONTROL MEASURES**RESPIRATORY PROTECTION:**

VENTILATION: Local Exhaust

Mechanical:

Special:

Other:

PROTECTIVE GLOVES: Synthetic / Vinyl gloves

EYE PROTECTION: Tightly sealed goggles

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N.A.

WORK/HYGIENIC PRACTICE: N.A.

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: 11 December 2006

REVISED: 12 March 2012

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FIRE –

TOXICITY –

NFPA

REACTIVITY –

SPECIAL –

SECTION 1 - SOURCE/IDENTITY/USE INFORMATION**DISTRIBUTOR**

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Hours: Mon.- Fri. 8:00 am. - 5:00 pm. C.S.T.
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COMMON NAME: G-CEM LinkAce – Paste B

PRODUCT USE: Self adhesive resin cement for cementing metal, porcelain fused to metal resin and ceramic restorations.

SECTION 2 – COMPOSITION/DATA ON COMPONENTS

COMPONENT	C.A.S.	%
Silicon dioxide		45-55
Urethanedimethacrylate		35-40
Dimethacrylate		5-10
Initiator		Trace
Inhibitor		Trace

SECTION 3 – HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW:**

Irritant to eyes and skin. May cause sensitization by skin contact if a person is known to be allergic to any of the ingredients.

POTENTIAL HEALTH EFFECTS

EYES: Causes eye irritation

SKIN: May cause skin irritation

INGESTION: May cause irritation of the digestive tract

SECTION 4 – FIRST AID MEASURES

SKIN: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

INGESTION: Consult a doctor if symptoms persist.

INHALATION: Supply fresh air and be sure to call for a doctor if symptoms persist.

EYES: Flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Consult a doctor if symptoms persist.

SECTION 5 – FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Material is not flammable.

FLASH POINT: 93° C

FLAMMABLE LIMITS: Not determined

AUTO IGNITION TEMPERATURE: Not determined

HAZARDOUS COMBUSTION PRODUCTS: None

EXTINGUISHING MEDIA: Carbon dioxide, dry chemicals, alcohol resistant foam, water spray.

FIRE FIGHTING INSTRUCTIONS: No special measures required.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb with liquid-binding material (sand, diatomite, acid binders, etc)

LARGE SPILL: Usually, no occasions large spill released.

SECTION 7 – HANDLING AND STORAGE

HANDLING: No special measures required.

STORAGE: Store at room temperature away from heat, moisture and direct sunlight. Keep receptacle tightly sealed.

SECTION 8 – EXPOSURE CONTROL, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Not required.

SKIN PROTECTION: Protective gloves

EYE PROTECTION: Tightly sealed goggles

ENGINEERING CONTROLS: Not required

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White color paste

ODOR: Odorless

BOILING POINT: Not determined

VAPOR PRESSURE: Not determined

VAPOR DENSITY: Not determined

SOLUBILITY IN WATER: Not miscible.

SPECIFIC GRAVITY: Not determined

FREEZING POINT: Not determined

pH: Approx. 1.5

VOLATILE: None

SECTION 10- STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBILITY: No incompatibility known

HAZARDOUS DECOMPOSITION PRODUCTS: No hazardous products known.

HAZARDOUS POLYMERIZATION: No hazardous polymerization known.

SECTION 11- TOXICOLOGICAL INFORMATION

ACUTE ORAL EFFECTS: Not determined.

PRIMARY IRRITANT EFFECT:

ON THE SKIN: Irritant to skin and mucous membranes.

ON THE EYE: Irritant effect

SENSITIZATION: Sensitization possible through skin contact.

SECTION 12- ECOLOGICAL INFORMATION

GENERAL NOTES: Not known to be hazardous to water.

SECTION 13- DISPOSAL CONSIDERATIONS

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

Disposal must be made according to the local official regulations.

SECTION 14- TRANSPORT INFORMATION

IMO Regulations: Not applicable

ICAO and IATA Regulations: Not applicable

SECTION 15- REGULATORY INFORMATION

Follow the state or local regulations, if any.

SECTION 16- OTHER INFORMATION

No information is available.

.....
DATE: 6 August 2012

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Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

1 Identification

- **Product identifier**
- **Trade name:** G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)
- **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** Dental cement
- **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**
Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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**

GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
initiator**
- **Hazard statements**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

(Contd. on page 2)

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Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

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Reviewed on 02/24/2015

Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 1)

- **Precautionary statements**

Contaminated work clothing must not be allowed out of the workplace.

[In case of inadequate ventilation] wear respiratory protection.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves.

If experiencing respiratory symptoms: Call a poison center/doctor.

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

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *0

Fire = 0

Reactivity = 0

- **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.

- **Dangerous components:**

initiator**	1-5%
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- **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.

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:**

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

(Contd. on page 3)

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Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 2)

- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
- **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 formation of dust.
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:**
Ensure adequate ventilation.
Pick up mechanically.
Prevent formation of dust.
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.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Observe instructions for use.
Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 4)

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Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 3)

- Prevent formation of dust.
- Do not inhale dust / smoke / mist.
- Any deposit of dust which cannot be avoided must be regularly removed.
- Avoid contact with the eyes and skin.
- **Information about protection against explosions and fires:**
Dust can combine with air to form an explosive mixture.
- **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:**

initiator**

TLV	Long-term value: 0.1 mg/m ³ as Persulfates
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- **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.
Do not inhale dust / smoke / mist.
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:** Safety glasses

USA

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Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 4)

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Powder
Color:	White
· Odor:	Odorless
· Odor threshold:	Not determined.

- pH-value: Not applicable.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

- Flash point: Not applicable.

- Flammability (solid, gaseous): Not determined.

- 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:	Not determined.
Upper:	Not determined.

- Vapor pressure: Not applicable.

- Density: Not determined.
- Relative density: Not determined.
- Vapour density: Not applicable.
- Evaporation rate: Not applicable.

- **Solubility in / Miscibility with**

Water:	Insoluble.
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- Partition coefficient (n-octanol/water): Not determined.

- **Viscosity:**

Dynamic:	Not applicable.
Kinematic:	Not applicable.

- **Solvent content:**

Organic solvents:	0.0 %
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Solids content:	100.0 %
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- Other information: No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability** Stable at ambient temperature.

(Contd. on page 6)

USA

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Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 5)

- **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:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **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.
- **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.

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USA

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(Contd. of page 6)

- **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.

14 Transport information

- | | |
|--|-----------------|
| · 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 II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

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

glass, oxide, chemicals

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-USA-

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Trade name: G-CEM CAPSULE (Powder, Shades: A2, AO3, BO1, and Translucent)

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initiator**

silane**

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

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

None of the ingredients is listed.

- **GHS label elements**

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

- **Hazard pictograms**



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

initiator**

- **Hazard statements**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

- **Precautionary statements**

Contaminated work clothing must not be allowed out of the workplace.

[In case of inadequate ventilation] wear respiratory protection.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves.

If experiencing respiratory symptoms: Call a poison center/doctor.

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 MSDS:** Regulatory Affairs

- **Contact:**

Regulatory Affairs

Telephone No. +1 (708) 597-0900

sds@gcamerica.com

- **Date of preparation / last revision** 02/24/2015 / -

- **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)

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USA

Safety Data Sheet

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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)

HMS: 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

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

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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USA

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

1 Identification

- **Product identifier**

- **Trade name:** G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

- **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** Dental cement

- **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**

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

H227 Combustible liquid.

- **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**



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

urethane dimethacrylate (UDMA)

(Contd. on page 2)

USA

Safety Data Sheet

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Printing date 02/24/2015

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Reviewed on 02/24/2015

Trade name: G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 1)

stabilizer**

- **Hazard statements**

Combustible liquid.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.

- **Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.
 Wear protective gloves / eye protection / face protection.
 Contaminated work clothing must not be allowed out of the workplace.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

17.6 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1
 Fire = 1
 Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *1
 Fire = 1
 Reactivity = 0

- **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.

- **Dangerous components:**

72869-86-4	urethane dimethacrylate (UDMA)	25-50%
	dimethacrylate**	5-10%
	phosphoric acid ester monomer**	1-5%
	initiator**	< 1%
	stabilizer**	< 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).

USA

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Safety Data Sheet

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Printing date 02/24/2015

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Reviewed on 02/24/2015

Trade name: G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

(Contd. of page 2)

4 First-aid measures

- **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; 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.
If symptoms persist consult doctor.
- **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:**
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.

(Contd. on page 4)

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acc. to OSHA HCS 29 CFR 1910.1200

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(Contd. of page 3)

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.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Observe instructions for use.

Ensure good ventilation/exhaustion at the workplace.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

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

- **Storage:** Store only in the original receptacle.

- **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.

Keep receptacle tightly sealed.

- **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:**

initiator**

WEEL	Long-term value: 6 mg/m ³ , 1 ppm
	Skin

- **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.

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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Trade name: G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

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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:** Safety glasses

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Pasty
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

- **Flash point:** 93 °C (199 °F)

- **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:	Not determined.
Upper:	Not determined.

- **Vapor pressure:** Not determined.

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Insoluble.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

- **Solvent content:**

Organic solvents: 0.0 %

Solids content: 70.0 %

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· **Other information**

No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable at ambient temperature.
- **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:**

stabilizer**		
Oral	LD50	530 mg/kg (mouse)
		910 mg/kg (rat (f+m)) (OECD 401)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **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)**

silica, vitreous	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:**

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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.
- **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.

14 Transport information

- | | |
|-------------------------------------|------|
| · 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 |

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acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

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Reviewed on 02/24/2015

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- | | |
|--|-----------------|
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act)

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

None of the ingredient is listed.

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

initiator**

- **TSCA (Toxic Substances Control Act):**

silica, vitreous

urethane dimethacrylate (UDMA)

dimethacrylate**

surface-treated silica**

silane**

initiator**

stabilizer**

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

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

silica, vitreous

- **GHS label elements**

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

- **Hazard pictograms**



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

urethane dimethacrylate (UDMA)

stabilizer**

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USA

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

Trade name: G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

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- **Hazard statements**

Combustible liquid.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.

- **Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.
 Wear protective gloves / eye protection / face protection.
 Contaminated work clothing must not be allowed out of the workplace.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Store in a well-ventilated place. Keep cool.
 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 MSDS:** Regulatory Affairs

- **Contact:**

Regulatory Affairs
 Telephone No. +1 (708) 597-0900
 sds@gcamerica.com

- **Date of preparation / last revision** 02/24/2015 / -

- **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
 : Flammable liquids, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

- **Sources**

- Manufacturers' MSDSs/SDSs
- OSHA (<https://www.osha.gov/dts/chemicalsampling/toc/chmccas.html>)
- TOXNET (<http://toxnet.nlm.nih.gov/>)
- ECHA (<http://echa.europa.eu/>)
- EnviChem (www.echemportal.org)

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Printing date 02/24/2015

Version US-EN-Rev 1

Reviewed on 02/24/2015

Trade name: G-CEM LinkAce (Paste B, Shades: A2, AO3, BO1, and Translucent)

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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.

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USA

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/21/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

1 Identification

- **Product identifier**

- **Trade name:** G-CEM CAPSULE (Liquid)

- **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** Dental cement

- **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**

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Acute Tox. 4 H312 Harmful in contact with skin.

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.

STOT SE 3 H335 May cause respiratory irritation.

- **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**



GHS07 GHS08

- **Signal word** Danger

(Contd. on page 2)

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Safety Data Sheet

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Printing date 04/21/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: G-CEM CAPSULE (Liquid)

(Contd. of page 1)

- **Hazard-determining components of labeling:**

dimethacrylate**
 urethane dimethacrylate (UDMA)
 stabilizer**
 phosphoric acid ester monomer**

- **Hazard statements**

Harmful in contact with skin.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 May cause respiratory irritation.

- **Precautionary statements**

Contaminated work clothing must not be allowed out of the workplace.
 [In case of inadequate ventilation] wear respiratory protection.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

83.5 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1
 Fire = 1
 Reactivity = 1

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1
 FIRE 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.

- **Dangerous components:**

	dimethacrylate**	50-70%
72869-86-4	urethane dimethacrylate (UDMA)	5-10%
	phosphoric acid ester monomer**	1-5%
	stabilizer**	< 0.5%
123-31-9	hydroquinone (HQ)	< 0.5%
	photoinitiator**	< 0.5%

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Printing date 04/21/2015

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Reviewed on 04/19/2015

Trade name: G-CEM CAPSULE (Liquid)

(Contd. of page 2)

· **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.
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.
If symptoms persist consult doctor.

· **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.

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US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/21/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: G-CEM CAPSULE (Liquid)

(Contd. of page 3)

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:**

Ensure adequate ventilation.

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.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Observe instructions for use.

Ensure good ventilation/exhaustion at the workplace.

Do not inhale dust / smoke / mist.

Prevent formation of aerosols.

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.

Keep receptacle tightly sealed.

- **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.

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

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- **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

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Light yellow
· Odor:	Odorless
· Odor threshold:	Not determined.

- pH-value: Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	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:	Not determined.
Upper:	Not determined.

- Vapor pressure: Not determined.

· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

Water: Insoluble.

- Partition coefficient (n-octanol/water): Not determined.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 0.0 %
- Water:** 7.3 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable at ambient temperature.
- **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:**

stabilizer**

Oral	LD50	530 mg/kg (mouse)
		910 mg/kg (rat (f+m)) (OECD 401)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **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)**

hydroquinone (HQ)

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.

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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.
- **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.

14 Transport information

- | | |
|---------------------------------------|-----------------|
| · 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. |

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- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act)**

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

hydroquinone (HQ)

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

hydroquinone (HQ)

- **TSCA (Toxic Substances Control Act):**

dimethacrylate**

urethane dimethacrylate (UDMA)

surface-treated silica**

catalyst**

stabilizer**

hydroquinone (HQ)

photoinitiator**

water, distilled

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

hydroquinone (HQ)

A3

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

None of the ingredients is listed.

- **GHS label elements**

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

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

dimethacrylate**

urethane dimethacrylate (UDMA)

stabilizer**

phosphoric acid ester monomer**

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- **Hazard statements**

Harmful in contact with skin.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 May cause respiratory irritation.

- **Precautionary statements**

Contaminated work clothing must not be allowed out of the workplace.
 [In case of inadequate ventilation] wear respiratory protection.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Store locked up.
 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** 04/21/2015 / -

- **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
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- **Sources**

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- 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.

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