



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:** GC RELINE (Bonding Agent)

- **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** Auxiliary for 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**

Flam. Liq. 2 H225

Highly flammable liquid and vapor.

STOT RE 1 H372

Causes damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304

May be fatal if swallowed and enters airways.

Acute Tox. 4 H302

Harmful if swallowed.

Acute Tox. 4 H312

Harmful in contact with skin.

Acute Tox. 4 H332

Harmful 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.

STOT SE 3 H335-H336

May cause respiratory irritation. May cause drowsiness or dizziness.

- **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).

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· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

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

methyl methacrylate (MMA)

acetone

2-hydroxyethyl methacrylate (HEMA)

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed, in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation. May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves / eye protection / face protection.

If swallowed: Immediately call a poison center/doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 3

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 3

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.· **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

80-62-6	methyl methacrylate (MMA)	50-70%
67-64-1	acetone	25-50%
868-77-9	2-hydroxyethyl methacrylate (HEMA)	5-10%

- **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 or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
Do not use mouth to mouth or mouth to nose resuscitation.
- **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:**
Do not induce vomiting; immediately call for medical help.
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, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

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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.
 Keep away from ignition sources
 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.
 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:

Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
 Do not spray on a naked flame or any incandescent material.

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:

Observe instructions for use / storage.
 Keep receptacle tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
 Protect from heat and direct sunlight.
 Store in a cool place.

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- **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:**

80-62-6 methyl methacrylate (MMA)

PEL	Long-term value: 410 mg/m ³ , 100 ppm
REL	Long-term value: 410 mg/m ³ , 100 ppm
TLV	Short-term value: 410 mg/m ³ , 100 ppm
	Long-term value: 205 mg/m ³ , 50 ppm
	(SEN) NIC-DSEN

67-64-1 acetone

PEL	Long-term value: 2400 mg/m ³ , 1000 ppm
REL	Long-term value: 590 mg/m ³ , 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m ³ , (750) NIC-500 ppm
	Long-term value: (1188) NIC-594 mg/m ³ , (500) NIC-250 ppm
	BEI

- **Ingredients with biological limit values:**

67-64-1 acetone

BEI	50 mg/L
	Medium: urine
	Time: end of shift
	Parameter: Acetone (nonspecific)

- **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.

- **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 properties

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

- **General Information**

- **Appearance:**

- Form:

Liquid

- Color:

According to product specification

- **Odor:**

Methacrylic

- **Odor threshold:**

Not determined.

- **pH-value:**

Not determined.

- **Change in condition**

- Melting point/Melting range:

Undetermined.

- Boiling point/Boiling range:

100 °C (212 °F)

- **Flash point:**

-10 °C (14 °F)

- **Flammability (solid, gaseous):**

Not applicable.

- **Ignition temperature:**

Undetermined.

- **Decomposition temperature:**

Not determined.

- **Auto igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Heating may cause an explosion.

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

- Lower:

2.1 Vol %

- Upper:

13.0 Vol %

- **Vapor pressure:**

Not determined.

- **Density at 20 °C (68 °F):**

0.95 g/cm³ (7.928 lbs/gal)

- **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 at 20 °C (68 °F):

0.6 mPas

- Kinematic:

Not determined.

- **Solvent content:**

- Organic solvents:

26.9 %

- **Other information**

No further relevant information available.

10 Stability and reactivity

- **Reactivity** Danger of polymerization.

- **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**
Spontaneous polymerization can be caused in unstabilized product e.g. by ambient heat.
Danger of receptacles bursting because of high vapor pressure if heated.
Exothermic polymerization.
- **Conditions to avoid** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Incompatible materials:**
Reacts with peroxides and other radical forming substances.
Reacts with amines.
Reacts with heavy metals.
- **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.
 - **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) | |
| methyl methacrylate (MMA) | 3 |
| butylated hydroxytoluene (BHT) | 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 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even 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 | UN1993 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Flammable liquids, n.o.s. (Methyl methacrylate monomer, stabilized, Acetone) |
| · DOT | |
| · ADR | 1993 Flammable liquids, n.o.s. (Methyl methacrylate monomer, stabilized, Acetone), special provision 640D |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED, ACETONE) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |

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· ADR



· Class 3 (F1) Flammable liquids
 · Label 3

· IMDG, IATA



· Class 3 Flammable liquids
 · Label 3

· Packing group

· DOT, ADR, IMDG, IATA II

· Environmental hazards:

· Marine pollutant: No

· Special precautions for user

Warning: Flammable liquids

· Danger code (Kemler):

33

· EMS Number:

F-E, S-E

· Transport in bulk according to Annex II of
 MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN1993, Flammable liquids, n.o.s. (Methyl methacrylate
 monomer, stabilized, Acetone), special provision 640D, 3,
 II

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.

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

methyl methacrylate (MMA)

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

methyl methacrylate (MMA)

acetone

2-hydroxyethyl methacrylate (HEMA)

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

methyl methacrylate (MMA)

E, NL

acetone

I

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

methyl methacrylate (MMA)

A4

acetone

A4

butylated hydroxytoluene (BHT)

A4

· **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**



GHS02 GHS07 GHS08

· **Signal word** Danger

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

methyl methacrylate (MMA)

acetone

2-hydroxyethyl methacrylate (HEMA)

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed, in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation. May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves / eye protection / face protection.

If swallowed: Immediately call a poison center/doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Store locked up.

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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

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

Flam. Liq. 2: Flammable liquids, Hazard Category 2

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

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

Asp. Tox. 1: Aspiration hazard, 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:**

The information contained herein is believed to be true and accurate. However, all statements, recommendations or suggestions are made without any guarantee, representation or warranty, express or implied, on our part. Therefore, no warranty is made or to be implied that the information set out in this document is accurate or complete, and we accordingly exclude all liability in connection with the use of this information or the products referred to herein. All such risks are assumed by the purchaser/user. The information contained herein is also subject to change without notice. For the avoidance of doubt, however, nothing in this document excludes or limits our liability for death or personal injury caused by our negligence or for fraudulent misrepresentation.

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1 Identification

- **Product identifier**
- **Trade name:** GC RELINE (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** 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.
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
- **Signal word** Warning
- **Hazard-determining components of labeling:**
benzyl methacrylate (BZMA)
1,6-hexanediyl bismethacrylate

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catalyst**

UV-light absorber**

- **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

- **Precautionary statements**

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

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

Wear protective gloves.

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:**

52.8 % 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

Fire = 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:**

2495-37-6	benzyl methacrylate (BZMA)	20-25%
	dimethacrylate**	20-25%
6606-59-3	1,6-hexanediyl bismethacrylate	20-25%
	catalyst**	1-5%
	UV-light absorber**	< 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).

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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**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **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.

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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.

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

- **Material of gloves**

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

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- **Penetration time of glove material**

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

- **Eye protection:** Safety glasses

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Light yellow
Odor:	Methacrylic
Odor threshold:	Not determined.

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

- **Change in condition**

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

- **Flash point:** 101 °C (214 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** Undetermined.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Heating may cause an explosion.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 0.91 g/cm³ (7.594 lbs/gal)

- **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 at 20 °C (68 °F):	4 mPas
Kinematic:	Not determined.

- **Solvent content:**

Organic solvents:	0.0 %
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Other information

No further relevant information available.

10 Stability and reactivity

- **Reactivity** Danger of polymerization.
- **Chemical stability** Stable at ambient temperature.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
Spontaneous polymerization can be caused in unstabilized product e.g. by ambient heat.
Danger of receptacles bursting because of high vapor pressure if heated.
Exothermic polymerization.
- **Conditions to avoid** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Incompatible materials:**
Reacts with peroxides and other radical forming substances.
Reacts with amines.
Reacts with heavy metals.
- **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
- **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.

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NTP R: Reasonably anticipated to be human carcinogen.

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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):**

None of the ingredient is listed.

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

None of the ingredients is listed.

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

benzyl methacrylate (BZMA)

dimethacrylate**

1,6-hexanediyl bismethacrylate

catalyst**

synergist**

UV-light absorber**

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

butylated hydroxytoluene (BHT)

A4

- **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

- **Signal word** Warning

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

benzyl methacrylate (BZMA)

1,6-hexanediyl bismethacrylate

catalyst**

UV-light absorber**

- **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

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May cause an allergic skin reaction.

May cause respiratory irritation.

Precautionary statements

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

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

Wear protective gloves.

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 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

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

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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.

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USA

MS346002

GC RELINE – POWDER
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 Telephone No. 800-424-9300

COMMON NAME: GC RELINE - POWDER**CHEMICAL NAME:** N.A.**PRODUCT USE:** Hard denture lining material – Powder

The following information is provided with regard to the toxicity and hazards of the pure components present in this portion of the unmixed powder/liquid system.

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENT	C.A.S.	EXPOSURE LIMITS	LD50/LC50	%
Polyethyl Methacrylate	N.E.	TLV-TWA (8 hours) 10mg/m ³ (ACGIH)	N.E.	90-100
Benzoyl Peroxide	94-36-0	TWA:5mg/m ³ (OSHA/ACGIH)	LD50:70 10mg/kg (oral rat)	<1
Silicone Dioxide	112926-00-8	PEL 6mg/m ³ TLV 10mg/m ³	LD50:>10000mg/kg (oral rat)	1

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES**BOILING POINT:** N.E.**SPECIFIC GRAVITY (H₂O = 1):** N.E.**VAPOR PRESSURE:** N.E.**MELTING POINT:** > 1350°C**VAPOR DENSITY:** N.E.**EVAPORATION RATE:** N.E.**SOLUBILITY IN WATER:** Slightly soluble**ODOR THRESHOLD:** N.E.**COEFFICIENT OF OIL/WATER DISTRIBUTION:** N.E.**APPEARANCE AND ODOR:** White powder**SECTION 4 - FIRE AND EXPLOSION DATA****FLASH POINT:** 101°C**FLAMMABLE LIMITS:** N.E.**EXTINGUISHING MEDIA:** Water, fog, foam, carbon dioxide, dry chemical**SPECIAL FIRE FIGHTING PROCEDURES:** Self-contained breathing apparatus with full face piece and protective clothing.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None known**HAZARDOUS COMBUSTION PRODUCTS:** N.E.**SECTION 5 - REACTIVITY DATA****STABILITY:** Stable ☒Unstable ☐**POLYMERIZATION:** Will Not Occur ☒Will Occur ☐**CONDITIONS TO AVOID:** High heat**INCOMPATIBILITY (Materials to Avoid):** None known**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Carbon dioxide, carbon monoxide, methyl methacrylate

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						

ROUTES OF ENTRY: Inhalation ☒ Skin ☒ Ingestion ☐

HEALTH HAZARD (Acute and Chronic): Can cause moderate irritation to eyes and skin. May cause skin sensitization.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: High concentrations irritant to respiratory tract and may lead to dizziness, headache and anesthetic effects.

CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N.A.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

INGESTION: If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Call a physician.

SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes. If irritation persists call a physician.

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists call a physician.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Sweep up and recover mix material with moist absorbent and shovel into waste container. Wash spill area with hot water and detergent.

WASTE DISPOSAL METHOD: In accordance with Federal, State and local regulations. Do not allow product to enter sewers.

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: Store in cool, dry place. Keep away from heat or open flame.

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

VENTILATION: Local Exhaust: YES Mechanical: N.E. Special: N.E. Other: N.E.

PROTECTIVE GLOVES: If necessary, use protective gloves to reduce irritation.

EYE PROTECTION: Safety glasses

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station

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: 12 January 2009

REVIEWED: 27 February 2012

N.A. = NOT APPLICABLE

N.E. = NOT ESTABLISHED

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

NFPA**FIRE – 1****TOXICITY – 1****REACTIVITY – 1****SPECIAL –**