

SAFETY DATA SHEETS

This SDS packet was issued with item:

072054666

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

072054658

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).

072054625



MS003653

GRADIA CORE SELF ETCHING BOND – LIQUID A

MATERIAL SAFETY DATA SHEET

Page 1 of 2

SECTION 1 - SOURCE/IDENTITY/USE INFORMATION

DISTRIBUTOR

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

COMMON NAME: GRADIA Core Self Etching Bond – Liquid A**CHEMICAL NAME:** N.A.**PRODUCT USE:** Self-etching resin tooth bonding agent

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	%
Distilled water		N.E.	N.E.	30
Ethanol	64-17-5	N.E.	N.E.	25-30
4-Methacryloxyethyltrimellitate anhydride	70293-55-9	N.E.	N.E.	20-25
Methacrylic Acid Ester		N.E.	N.E.	15-20
Silicon dioxide	7631-86-9	N.E.	N.E.	1-5
Initiator		N.E.	N.E.	Trace

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

BOILING POINT: 78°C	SPECIFIC GRAVITY: N.E.
VAPOR PRESSURE AT 20°C: 59 hPa	MELTING POINT: N.E.
VAPOR DENSITY: N.E.	EVAPORATION RATE: N.E.
SOLUBILITY IN WATER: Soluble	ODOR THRESHOLD: N.E.
COEFFICIENT OF OIL/WATER DISTRIBUTION: N.E.	APPEARANCE AND ODOR: Liquid

SECTION 4 - FIRE AND EXPLOSION DATA

FLASH POINT: 13°C

FLAMMABLE LIMITS: LEL: 3.5%
UEL: 15%

EXTINGUISHING MEDIA: CO2, extinguishing powder or sand. Do not use water.**SPECIAL FIRE FIGHTING PROCEDURES:** N.A.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Product does not present an explosion hazard.**HAZARDOUS COMBUSTION PRODUCTS:** N.A.

SECTION 5 - REACTIVITY DATA

STABILITY: Stable Unstable

POLYMERIZATION: Will Not Occur Will Occur

CONDITIONS TO AVOID: Keep away from heat, sparks, open flames, hot surfaces.

INCOMPATIBILITY (Materials To Avoid): None

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: No dangerous decomposition products known.

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

	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): Causes eye irritation. Sensitization possible through skin contact.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: May cause irritation to skin and respiratory.

EMERGENCY FIRST AID PROCEDURES:

INHALATION : Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if symptoms persist.

EYE CONTACT : Flush eyes with water for several minutes. Seek medical attention if irritation persists.

SKIN CONTACT : Flush skin with plenty of soap and water and rinse thoroughly. Seek medical attention if irritation persists.

INGESTION: Call a poison control center or doctor.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust.). Do not flush with water or aqueous cleansing agents.

WASTE DISPOSAL METHOD: Do not allow product to reach sewer system, surface or ground water. Dispose of waste in accordance with local, state and federal regulations.

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: Store in a well-ventilated place. Store in a cool, dry location. Keep container tightly sealed when not in use. Keep ignition sources away – do not smoke. Contaminated work clothing should not be allowed out of the workplace.

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION: In case brief exposure, use self-contained respiratory protective device.

VENTILATION: Local Exhaust Mechanical: Other:

Special: Use explosion-proof electrical/ventilating/lighting equipment.

PROTECTIVE GLOVES: Disposable vinyl gloves.

EYE PROTECTION: Tightly sealed safety goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station.

WORK/HYGIENIC PRACTICE: Observe good hygienic work practices. Keep away from food, beverages and feed. Immediately remove all contaminated clothing.

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: 01 June 2009

REVIEWED: 13 March 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 3	TOXICITY	NFPA REACTIVITY	SPECIAL -
---------------	-----------------	----------------------------	------------------

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COMMON NAME: GRADIA Core Self Etching Bond – Liquid B

CHEMICAL NAME: N.A.

PRODUCT USE: Self-etching resin tooth bonding agent

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	%
Distilled water		N.E.	N.E.	30
Ethanol	64-17-5	N.E.	N.E.	25-30
4-Methacryloxyethyltrimellitate anhydride	70293-55-9	N.E.	N.E.	20-25
Methacrylic Acid Ester		N.E.	N.E.	15-20
Silicon dioxide	7631-86-9	N.E.	N.E.	1-5
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SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

BOILING POINT: 78°C
VAPOR PRESSURE AT 20°C : 59 hPa
VAPOR DENSITY: N.E.
SOLUBILITY IN WATER: Soluble
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: Liquid

SECTION 4 - FIRE and EXPLOSION DATA

FLASH POINT: 13°C
FLAMMABLE LIMITS: LEL: 3.5%
UEL: 15%

EXTINGUISHING MEDIA: CO2, extinguishing powder or sand. Do not use water.
SPECIAL FIRE FIGHTING PROCEDURES: N.A.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Product does not present an explosion hazard.
HAZARDOUS COMBUSTION PRODUCTS: N.A.

SECTION 5 - REACTIVITY DATA

STABILITY: Stable Unstable
POLYMERIZATION: Will Not Occur Will Occur
CONDITIONS TO AVOID: Keep away from heat, sparks, open flames, hot surfaces.
INCOMPATIBILITY (Materials To Avoid): None
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: No dangerous decomposition products known.

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

	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): Causes eye irritation. Sensitization possible through skin contact.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: May cause irritation to skin and respiratory.

EMERGENCY FIRST AID PROCEDURES:

INHALATION : Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if symptoms persist.

EYE CONTACT : Flush eyes with water for several minutes. Seek medical attention if irritation persists.

SKIN CONTACT : Flush skin with plenty of soap and water and rinse thoroughly. Seek medical attention if irritation persists.

INGESTION: Call a poison control center or doctor.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

IN CASE OF RELEASE OR SPILL: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust.). Do not flush with water or aqueous cleansing agents.

WASTE DISPOSAL METHOD: Do not allow product to reach sewer system, surface or ground water. Dispose of waste in accordance with local, state and federal regulations.

STORAGE, HANDLING, AND SPECIAL PRECAUTIONS: Store in a well-ventilated place. Store in a cool, dry location. Keep container tightly sealed when not in use. Keep ignition sources away – do not smoke. Contaminated work clothing should not be allowed out of the workplace.

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION: In case brief exposure, use self-contained respiratory protective device.

VENTILATION: Local Exhaust Mechanical: Other:

Special: Use explosion-proof electrical/ventilating/lighting equipment.

PROTECTIVE GLOVES: Disposable vinyl gloves.

EYE PROTECTION: Tightly sealed safety goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station.

WORK/HYGIENIC PRACTICE: Observe good hygienic work practices. Keep away from food, beverages and feed. Immediately remove all contaminated clothing.

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DATE: 01 June 2009

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FIRE 3

TOXICITY

**NFPA
REACTIVITY**

SPECIAL -

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 02/27/2015

Version US-EN-Rev 1

Reviewed on 02/27/2015

1 Identification

- **Product identifier**
- **Trade name:** GRADIA CORE (Self-Etching Bond A)
- **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 bonding material
- **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.
Skin Irrit. 2	H315	Causes skin 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.
Eye Irrit. 2B	H320	Causes eye 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**

GHS02 GHS07 GHS08
- **Signal word** Danger

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Trade name: GRADIA CORE (Self-Etching Bond A)

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

ethyl alcohol
 dimethacrylate component**
 dimethacrylate**
 urethane dimethacrylate (UDMA)

- **Hazard statements**

Highly flammable liquid and vapor.
 Causes skin and 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.

- **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 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.

- **Additional information:**

32.8 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**

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



Health = 1
 Fire = 3
 Reactivity = 1

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



HEALTH 1 Health = 1
 FIRE 3 Fire = 3
 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:**

64-17-5	ethyl alcohol	25-50%
	dimethacrylate**	5-10%
	dimethacrylate component**	5-10%
72869-86-4	urethane dimethacrylate (UDMA)	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:**

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, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water

· **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.

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.

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- 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.
 - 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.
- **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:**

64-17-5 ethyl alcohol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1880 mg/m ³ , 1000 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:** Protective gloves
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

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

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

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78 °C (172 °F)

- **Flash point:** 13 °C (55 °F)

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

- **Ignition temperature:** Undetermined.

- **Decomposition temperature:** Not determined.

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

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower:	3.5 Vol %
Upper:	15.0 Vol %

- **Vapor pressure:** Not determined.

- **Density:** Not determined.

- **Relative density** Not determined.

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· 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:	26.8 %
Water:	29.8 %
VOC content:	26.8 %
· 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:** 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 central nervous system.
May cause damage to liver.
May cause damage to lungs.
- **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)**

ethyl alcohol	1
silicon dioxide, amorphous	3

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Trade name: GRADIA CORE (Self-Etching Bond A)

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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.

· Additional carcinogenic information:

The substance ethyl alcohol, also known as ethanol, is listed by IARC as a Group 1 carcinogen but in alcoholic beverage consumption. IARC Volume 100E (2012) "Personal Habits and Indoor Combustions" stated in its monograph "Consumption of Alcoholic Beverages" the following evaluation: "Ethanol in alcoholic beverages is carcinogenic to humans (Group 1)." GC products are not consumable alcoholic beverages.

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.

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Trade name: GRADIA CORE (Self-Etching Bond A)

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14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	UN1170
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	Ethanol solution 1170 Ethanol (Ethyl alcohol) solution ETHANOL SOLUTION solution
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  <p>3</p> </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · ADR 	<div style="text-align: center;">  <p>3</p> </div>
<ul style="list-style-type: none"> · Class · Label 	3 (F1) Flammable liquids 3
<ul style="list-style-type: none"> · IMDG, IATA 	<div style="text-align: center;">  <p>3</p> </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: 	Warning: Flammable liquids 33 F-E,S-D
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ)
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN1170, Ethanol (Ethyl alcohol) solution, 3, II</p> |

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):**

ethyl alcohol
dimethacrylate**
dimethacrylate component**
urethane dimethacrylate (UDMA)
surface-treated silica**
water, distilled

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

ethyl alcohol	A3
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:**

ethyl alcohol
dimethacrylate component**
dimethacrylate**

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urethane dimethacrylate (UDMA)

- **Hazard statements**

Highly flammable liquid and vapor.

Causes skin and 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.

- **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 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.

- **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** 02/27/2015 / -

- **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)

VOC: Volatile Organic Compounds (USA, EU)

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

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

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

- **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/>)

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- 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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1 Identification

- **Product identifier**
- **Trade name:** GRADIA CORE (Self-Etching Bond B)
- **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 bonding material
- **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.
Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
STOT SE 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
Eye Irrit. 2B	H320	Causes eye 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**



GHS02 GHS07 GHS08

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- **Signal word** Danger
 - **Hazard-determining components of labeling:**
ethyl alcohol
catalyst**
 - **Hazard statements**
Highly flammable liquid and vapor.
Harmful if swallowed or in contact with skin.
Causes skin and eye irritation.
May cause respiratory irritation. May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.
 - **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 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.
 - **Additional information:**
14 % of the mixture consists of component(s) of unknown toxicity.
 - **Classification system:**
 - **NFPA ratings (scale 0 - 4)**
- 

Health = 1
Fire = 3
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**
- | | |
|------------|---|
| HEALTH | 1 |
| FIRE | 3 |
| REACTIVITY | 0 |

Health = 1
Fire = 3
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:**

64-17-5	ethyl alcohol	80-90%
	catalyst**	5-10%

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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.
Do not use mouth to mouth or mouth to nose resuscitation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.
Rinse with warm water.
If symptoms persist consult doctor.

· **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**

No further relevant information available.

· **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**

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.

Keep away from ignition sources

Avoid contact with the eyes and skin.

Wear protective clothing.

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- **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.
 - 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.
- **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:**

64-17-5 ethyl alcohol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1880 mg/m ³ , 1000 ppm

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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.
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

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Light yellow
Odor:	Ester-like
Odor threshold:	Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78 °C (172 °F)
- **Flash point:** 13 °C (55 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** Undetermined.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**

Lower:	3.5 Vol %
Upper:	15.0 Vol %
- **Vapor pressure:** Not determined.

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- | | |
|---------------------------|-----------------|
| · 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: | 86.0 % |
| VOC content: | 86.0 % |

- | | |
|----------------------------|--------------------------------------------|
| Solids content: | 14.0 % |
| · 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:** No further relevant information available.
- **Primary irritant effect:**
- on the skin:** Irritant to skin and mucous membranes.
- on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Experience with humans:**
May cause damage to central nervous system.
May cause damage to liver.
May cause damage to lungs.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

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- **Carcinogenic categories**

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

ethyl alcohol

1

- **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.

- **Additional carcinogenic information:**

The substance ethyl alcohol, also known as ethanol, is listed by IARC as a Group 1 carcinogen but in alcoholic beverage consumption. IARC Volume 100E (2012) "Personal Habits and Indoor Combustions" stated in its monograph "Consumption of Alcoholic Beverages" the following evaluation: "Ethanol in alcoholic beverages is carcinogenic to humans (Group 1)." GC products are not consumable alcoholic beverages.

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 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.

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

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	UN1170
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	Ethanol solution 1170 Ethanol (Ethyl alcohol) solution ETHANOL SOLUTION solution
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · ADR 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	3 (F1) Flammable liquids 3
<ul style="list-style-type: none"> · IMDG, IATA 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: 	Warning: Flammable liquids 33 F-E,S-D
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.

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- **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":** UN1170, Ethanol (Ethyl alcohol) solution, 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.

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

None of the ingredients is listed.

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

All ingredients are listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

ethyl alcohol

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**



GHS02 GHS07 GHS08

- **Signal word** Danger

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

ethyl alcohol
catalyst**

- **Hazard statements**

Highly flammable liquid and vapor.
Harmful if swallowed or in contact with skin.

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Causes skin and eye irritation.

May cause respiratory irritation. May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

· **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 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.

· **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** 02/27/2015 / -

· **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)

VOC: Volatile Organic Compounds (USA, EU)

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. 2B: Serious eye damage/eye irritation, Hazard Category 2B

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

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

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Notes:

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- *** Data compared to the previous version altered.** This version replaces all previous versions.

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