

SAFETY DATA SHEETS

This SDS packet was issued with item:

073261310

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).

073261286 073261294 073261302 073261328 073261336 073261344 073261518 073261526 073261534

MS002475

GC FUJI FILLING LC – PASTE B
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: GC FUJI FILLING LC – PASTE B**CHEMICAL NAME:** N.A.**PRODUCT USE:** Light cured glass ionomer cement*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	7732-18-5	N.E.	N.E.	20-30%
Polyacrylic acid	9003-01-4	TWA=10ppm (ACGIH)	LD50 = 2500mg/kg (oral rat) LC50 = N.E.	20-30%
Urethanedimethacrylate	72869-86-4	N.E.	N.E.	12-15%
Silicon dioxide (fumed/amorphous)	112945-52-5	PEL 6mg/m ³ TLV 10mg/m ³	LD50:>10000mg/kg (oral rat)	10-15%

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES**BOILING POINT:** 100°C**VAPOR PRESSURE:** N.E.**VAPOR DENSITY:** N.E.**SOLUBILITY IN WATER:** Not miscible or difficult to mix**COEFFICIENT OF OIL/WATER DISTRIBUTION:** N.E.**SPECIFIC GRAVITY:** N.E.**MELTING POINT:** N.E.**EVAPORATION RATE:** N.E.**ODOR THRESHOLD:** N.E.**APPEARANCE AND ODOR:** paste with characteristic odor**SECTION 4 - FIRE AND EXPLOSION DATA****FLASH POINT:** N.A.**FLAMMABLE LIMITS:** N.A.**EXTINGUISHING MEDIA:** Chemical foam, carbon dioxide and dry chemical.**SPECIAL FIRE FIGHTING PROCEDURES:** No special measures required.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** N.E.**HAZARDOUS COMBUSTION PRODUCTS:** N.E.**SECTION 5 - REACTIVITY DATA****STABILITY:** Stable ☒Unstable ☐**POLYMERIZATION:** Will Not Occur ☒Will Occur ☐**CONDITIONS TO AVOID:** Keep away from high heat and humidity.**INCOMPATIBILITY (Materials to Avoid):** None.**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** None known.**SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION**

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

MS002475

GC FUJI FILLING LC – PASTE B

Page 2 of 2

SECTION 6 - HEALTH HAZARD DATA and FIRST AID INFORMATION - continuedROUTES OF ENTRY: Inhalation ☒ Skin ☒ Ingestion ☒**HEALTH HAZARD (Acute and Chronic):** May cause irritation to eyes, respiratory tract and skin.**SIGNS AND SYMPTOMS OF OVEREXPOSURE:** N.E.**CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** N.E.**EMERGENCY FIRST AID PROCEDURES:****INHALATION:** Supply fresh air. Seek medical attention if irritation develops.**EYE CONTACT:** Flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Seek medical attention if irritation develops.**SKIN CONTACT:** Wash skin with plenty of water for at least 15 minutes. Seek medical attention if irritation develops.**INGESTION:** Do not induce vomiting. Seek medical attention if irritation develops.**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), and place in a chemical waste container.**WASTE DISPOSAL METHOD:** Do not allow product to reach sewage system or any watercourse. Dispose of in accordance with local, state and federal guidelines.**STORAGE, HANDLING, AND SPECIAL PRECAUTIONS:** Store at room temperature in closed container when not in use.**SECTION 8 - CONTROL MEASURES****RESPIRATORY PROTECTION:** In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer use self-contained respiratory protective device.**VENTILATION:** Local Exhaust Recommended Mechanical: ☐ Special: ☐ Other: ☐**PROTECTIVE GLOVES:** Synthetic/vinyl gloves recommended.**EYE PROTECTION:** Use tightly sealed goggles to prevent eye contact.**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Eye wash station recommended.**WORK/HYGIENIC PRACTICE:** Observe good hygienic work 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:** 15 February 2006**REVISED:** 09 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 – 1

TOXICITY – 1

NFPA

REACTIVITY – 1

SPECIAL –



Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

1 Identification

- **Product identifier**

- **Trade name:** GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

- **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 filling 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**

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

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 May cause respiratory irritation.

- **Additional information:**

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

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS07 GHS08

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 1)

- **Signal word** Danger

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

2-hydroxyethyl methacrylate (HEMA)

initiator**

dimethacrylate**

butylated hydroxytoluene (BHT)

- **Hazard statements**

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

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

May cause respiratory irritation.

- **Precautionary statements**

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

[In case of inadequate ventilation] wear respiratory protection.

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

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

Store locked up.

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

- **Additional information:**

2.2 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**

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



Health = 2

Fire = 1

Reactivity = 1

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



Health = 2

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:**

868-77-9	2-hydroxyethyl methacrylate (HEMA)	10-20%
	dimethacrylate**	1-5%
72869-86-4	urethane dimethacrylate (UDMA)	1-5%
	initiator**	1-5%
1309-37-1	iron(III) oxide	< 1%

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 2)

	photoinitiator**	< 0.5%
128-37-0	butylated hydroxytoluene (BHT)	< 0.5%

Additional information:

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

4 First-aid measures

Description of first aid measures
General information:

Immediately remove any clothing soiled by the product.
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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.

For safety reasons unsuitable extinguishing agents: Water with full jet

Special hazards arising from the substance or mixture

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

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 3)

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:** No special measures required.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

- **Information about storage in one common storage facility:** Store away from foodstuffs.

- **Further information about storage conditions:** Observe instructions for use / storage.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

initiator**	
TLV	Long-term value: 0.1 mg/m ³ as Persulfates

- **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.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 4)

- 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:	Pasty
Color:	According to product specification
· Odor:	Odorless
· Odor threshold:	Not determined.

· pH-value:	Not determined.
-------------	-----------------

· Change in condition

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

· Flash point:	Not applicable.
----------------	-----------------

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

· Ignition temperature:	Undetermined.
-------------------------	---------------

· Decomposition temperature:	Not determined.
------------------------------	-----------------

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

· Danger of explosion:	Product does not present an explosion hazard.
------------------------	---

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure:	Not determined.
-------------------	-----------------

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

· Solubility in / Miscibility with

Water:	Insoluble.
--------	------------

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

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 5)

· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	82.8 %
· 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 inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

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

silicon dioxide, amorphous	3
iron(III) oxide	3
antimony nickel titanium oxide yellow	3
titanium dioxide	2B
cobalt aluminate blue spinel	2B
butylated hydroxytoluene (BHT)	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 6)

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Carcinogenic categories' legend:

IARC Group 1: The agent is carcinogenic to humans.

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

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

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

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

NTP K: Known to be human carcinogen.

NTP R: Reasonably anticipated to be human carcinogen.

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

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

· Mobility in soil No further relevant information available.

· Additional ecological information:
· General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· 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

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 7)

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

15 Regulatory information

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

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

None of the ingredient is listed.

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

cobalt aluminate blue spinel

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

glass, oxide, chemicals

2-hydroxyethyl methacrylate (HEMA)

dimethacrylate**

urethane dimethacrylate (UDMA)

initiator**

iron(III) oxide

antimony nickel titanium oxide yellow

triiron tetraoxide

titanium dioxide

cobalt aluminate blue spinel

silane**

photoinitiator**

butylated hydroxytoluene (BHT)

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

iron(III) oxide

A4

antimony nickel titanium oxide yellow

A4

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 8)

titanium dioxide	A4
butylated hydroxytoluene (BHT)	A4

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

titanium dioxide

· GHS label elements

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

· Hazard pictograms


GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labeling:

2-hydroxyethyl methacrylate (HEMA)

initiator**

dimethacrylate**

butylated hydroxytoluene (BHT)

· Hazard statements

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

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

May cause respiratory irritation.

· Precautionary statements

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

[In case of inadequate ventilation] wear respiratory protection.

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

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

Store locked up.

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

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

16 Other information

· Department issuing SDS: Regulatory Affairs

· Contact:

Regulatory Affairs

Telephone No. +1 (708) 597-0900

sds@gcamerica.com

· Date of preparation / last revision 04/20/2015 / -

· 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

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS 29 CFR 1910.1200

Printing date 04/20/2015

Version US-EN-Rev 1

Reviewed on 04/19/2015

Trade name: GC Fuji Filling LC (Paste A, Shades: A1, A2, A3, A3.5, CV, and Blue)

(Contd. of page 9)

OSHA: Occupational Safety and Health Administration (USA)
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Sources

- 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.

US