GATEWAY COMPOSITES | SAFETY DATA SHEET CARBON FIBER 2017



Product Name: Gateway Composites Carbon Fiber

Other Names: Unidirectional fabric, woven fabric, bi-directional fabric,

milled, chopped fiber Product Type: 3k, 6k, 12k, 24k, 48k, 50k

Address: 120 East Highway A, Wentzville, MO 63385

Telephone Number: 636-887-0637

Emergency Telephone Number: 636-887-0637 Chemtel 800-255-3924

2. HAZARDS IDENTIFICATION

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS contains valuable information critical to the safe handling and proper use of the product.

- 2.1 Primary Route of Exposure
- 2.1.1 Skin Contact Fiber dust may cause irritation, itchiness or sometimes allergic dermatitis.
- 2.1.2 Eye Contact Fiber or Fiber Dust may cause irritation or injury from scratching.
- 2.1.3 Inhalation Dust may cause irritation. 2.1.4 Ingestion Unknown
- 2.2 Chronic Toxicity/Carcinogenicity Not Listed
- 2.3 Medical Conditions Aggravated by Exposure Not Applicable
- 2.4 Signal word: No signal word.
- 2.5 Precautionary Statement: Possible irritant to the skin, eyes, and respiratory tract when processed due to nuisance dust generation. Fiber is electrically conductive.

See Section 10 for additional information. In the supplied form the product is not explosive however, the processing and buildup of fine dust can lead to a risk of dust explosion. Warning: processing may create combustible dust concentrations in the air. No specific hazards known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component Concentration CAS Number Carbon Fiber (Polyacrylonitrile based) $95 \sim 100 \%$ 7440-44-0 Epoxy (Sizing agent) $0.5 \sim 2.0 \%$ Trade Secret

4. FIRST AID MEASURES

4.1 Skin Wash with water and if irritation persists or allergic reaction occurs, consult a medical physician.



- 4.2 Eye Wash with plenty of clean water and, if irritation persists, consult a medical physician.
- 4.3 Inhalation Evacuate from the dusty contaminated area and walk outside to get fresh air.
- 4.4 Ingestion Consult a medical physician.
- 4.5 Notes to Physician Fiber is inert, but it is so sharp and strong that it may cause physical injury.

5. FIRE-FIGHTING MEASURES

- 5.1 Flammable Properties
- 5.1.1 Flash Point Not Applicable
- 5.1.2 Flammable Limits
 LFL (Lower Flush Limit) Not Applicable
 UFL (Upper Flush Limit) Not Applicable
- 5.2 Firefighting Instruction Not Applicable

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Aquatic Toxicity Unknown
- 6.2 Steps to be Taken if Material is Released or Spilled Vacuum up and place in a waste disposal container to an approved landfill.
- 6.3 Neutralizing Chemicals Not Applicable

7. HANDLING AND STORAGE

- 7.1 Precautions to be taken in Handling & Storing
 Airborne fiber dust and broken filaments should be controlled as to minimize
 (1) Skin irritation, (2) Electrical malfunction to machinery, electronics, etc. due to fiber electrical conductivity. Maintain good housekeeping to control dust accumulations.
- 7.2 Other Precautions
 Isolate all electrical equipment in surrounding areas where fiber is handled or used. Any contact between airborne particles and filaments may cause electrical shorts on any electrical equipment.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

- 8.1 Ventilation Requirements
 Local exhaust for fiber dust only
- 8.2 Personal Protective Equipment
 Eye/Face Protection Safety Goggles and Dust Mask
 Skin Protection Protective clothing (Rubber Gloves) which can cover full body
 Respiratory Protection Dust Masks



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9. PHYSICAL & CHEMICAL PROPERTIES

Appearance Filament Odor Odorless

Density (g/cm3) 1.8
Color Black
Boiling Point N/A
Vapor Pressure N/A
Melting Point N/A

Solubility (%)

Vapor Density N/A in water Insoluble Volatility N/A in others N/A

10. PHYSICAL HAZARDS (STABILITY & REACTIVITY)

Chemical Stability Stable

Conditions to Avoid Strong oxidizing agents.

Accumulation of fine dust may entail

the risk of a dust explosion in

the presence of air. The fine dust from a carbon fiber compound or composite that is cut or formed can create additional dust explosion risk depending on the resin or compounding agent. A process hazard analysis is recommended to determine what, if any, risks are present.

Incompatibilities None

Hazardous Polymerization Will not occur Hazardous Decomposition Product None

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: Not determined Acute dermal toxicity: Irritant Acute inhalation toxicity: Irritant

Irritation/Corrosion:

Skin: Mechanical skin irritation Eyes: Not determined

Sensitization: Not determined
Sub-acute toxicity: Not determined
Chronic toxicity: Not determined
Mutagenicity: Not determined
Carcinogenicity: Not determined
Reproductive toxicity: Not determined

Experiences made in practice: Fiber abrasion can cause mechanical skin irritation.



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12. ECOLOGICAL INFORMATION

Biodegradability Not biodegradable

Bioaccumulation Unknown Aqua Toxicity Unknown

13. DISPOSAL CONSIDERATION

Waste Disposal Method Dispose fiber in accordance with applicable governmental non-hazardous solid waste regulations.

14. TRANSPORT INFORMATION

Classification according to DOT: Non Hazardous

Classification according to DOT: Not classified as "Dangerous Goods" Classification according to DOT: Not classified as "Dangerous Goods"

15. REGULATORY INFORMATION

This product is not classified as a toxic chemical or hazardous material. No special warning label is required.

TSCA (US) NO CARBON FIBER 7440-44-0 EINECS NO N/A WHMIS (Canada) N/A CAS 7440-44-0 OSHA N/A SARA TITLE III Sec.313 Toxic Chemicals None

16. OTHER INFORMATION

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Gateway Composites LLC. It relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Gateway Composites LLC assumes no legal responsibility for use of or reliance upon this data.



GATEWAY COMPOSITES | SAFETY DATA SHEET 747 EPOXY RESIN

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product: Gateway Composites 747 Epoxy Resin

Product Code: 747 Epoxy Resin

HMIS Ratings: Health 2, Fire 1, Reactivity 0

SDS Number: SDS747ER Date Printed: 01/31/16

Gateway Composites, 120 East Highway A, Wentzville, MO 63385

Customer Information Center: 636-887-0637

Emer. # 636-887-0637 or CHEMTEL 800-255-3924

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Reaction product of epichlorohydrin & bisphenol A

SECTION 3: HAZARDS IDENTIFICATION

CAS# 025085-99-8 94%

Trade secret 6%

Colorless to slight yellow liquid. Epoxy odor. May cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN: Prolonged exposure not likely to cause significant skin irritation. Repeated exposure may cause skin irritation. Has caused allergic skin reaction in humans. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

INHALATION: Vapors are unlikely due to physical properties.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Except for skin sensitization,



repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

CANCER INFORMATION: Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBPA). Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that DGEBPA is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBPA is not classified as a carcinogen.

TERATOLOGY (BIRTH DEFECTS): DGEBPA did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.

REPRODUCTIVE EFFECTS: In animal studies, has been shown not to interfere with reproduction.

SECTION 4: FIRST AID

EYES: Flush eyes with plenty of water.
SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure

incidental to proper industrial handling.

INHALATION: No adverse effects anticipated by this route of exposure. NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on

judgment of the physician in response to reactions of the patient.

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 485F, 252C

METHOD USED: ASTM D93, PMCC

AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABILITY LIMITS

LFL: Not applicable UFL: Not applicable



HAZARDOUS COMBUSTION PRODUCTS:

Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to phenolics, carbon monoxide and carbon dioxide.

OTHER FLAMMABILITY INFORMATION:

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is emitted when burned without sufficient oxygen.

EXTINGUISHING MEDIA:

Water fog or fine spray, carbon dioxide, dry chemical, foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Water fog, applied gently may be used as a blanket for fire extinguishment.

FIRE FIGHTING INSTRUCTIONS:

Keep people away. Isolate fire area and deny unnecessary entry. Do not use direct water stream. May spread fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Move container from fire area if this is possible without hazard. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:

Wear positive pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. This will not provide sufficient fire protection. Consider fighting fire from a remote location. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.



SECTION 6: ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Isolate area. Clear non-emergency personnel f rom area.

PROTECT THE ENVIRONMENT: Keep out of irrigation ditches, sewers and water supplies.

CLEANUP: Absorb with material such as sand, or polypropylene or polyethylene fiber products. Collect in suitable and properly labeled containers. Remove residual using hot soapy water. Residual can be removed with solvent. Solvents are not recommended for cleanup unless the recommended exposure guide-lines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling information.

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid use of electric band heaters. Failures of electric band heaters have been reported to cause drums of liquid epoxy resin to explode and catch fire. Application of a direct flame to a container of liquid epoxy resin can also cause explosion and/or fire.

STORAGE: Recommended pumping and storage temperature is 60C (140F).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient

for most conditions.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: Use protective clothing impervious to this

material. Selection of specific items such as

faceshield, glove, boots, apron, or full-body suit will

depend on operation. Remove contaminated

clothing immediately, wash skin with soap and

water, and launder clothing before reuse.

RESPIRATORY PROTECTION: No respiratory protection should be needed.

EXPOSURE GUIDELINE(S): None established.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless to slight yellow liquid to semi-solid.

ODOR: Faint epoxy odor.

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

BOILING POINT: Not applicable



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SOLUBILITY IN WATER: None SPECIFIC GRAVITY: 1.16

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions.

See Storage, Section 7.

CONDITIONS TO AVOID: Potentially violent decomposition can occur above

350C (662F). Generation of gas during

decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with oxidizing materials, acids and bases. Avoid unintended contact with amines.

HAZARDOUS DECOMPOSITION PRODUCTS:

Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide and water.

HAZARDOUS POLYMERIZATION:

Will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build up.

SECTION 11: TOXICOLOGICAL INFORMATION

SKIN: The LD50 for skin absorption in rabbits is 20,000 mg/kg.

INGESTION: The oral LD50 for rats is >5000 mg/kg.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):

Animal mutagenicity studies were negative. In vitro mutagenicity studies were negative in some in some cases and positive in others.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE MOVEMENT & PARTITIONING:

Bioconcentration potential is moderate. (BCF between 100 and 3000 or Log Pow between 3 and 5). Potential for mobility in soil is low (Koc between 500 and 2000). Measured log octanol/water partition coefficient (log Pow) is 3.7-3.9. Soil organic carbon/water partition coefficient (Koc) is estimated to be 1800-4400. Henry's Law Constant (H) is estimated to be <6.94E-09 atm-m3/mole. Log octanol/water partition coefficient (log Pow) is estimated, using a structural fragment method, to be 3.84.



DEGRADATION & PERSISTENCE:

Theoretical oxygen demand (ThOD) is calculated to be 2.35 p/p. In the atmospheric environment, material is estimated to have a tropospheric half-life of 1.92 hr. Biodegradation reached in Modified Zahn-Wellens/EMPA Test (OECD Test No. 302B) after 28 days: 12%. 20-Day biochemical oxygen demand (BOD20) is <2.5%.

ECOTOXICOLOGY:

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species). Acute LC50 for SDS747ER water flea Daphnia magna is 1.3 mg/L. Acute LC50 for fathead minnow (Pimephales promelas) is 3.1mg/L. Toxicity to aquatic species occurs at concentrations greater than water solubility. Maximum acceptable toxicant concentration (MATC) in water flea Daphnia magna is 0.55 mg/L. Growth inhibition threshold in bacteria is > 42.6 mg C/L. Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is >100 mg/L.

SECTION 13: DISPOSAL CONSIDERATION

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND,

OR INTO ANY BODY OF WATER.

All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

GATEWAY COMPOSITES LLC HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients). FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

SECTION 14: TRANSPORT INFORMATION

Department of Transportation Classification: D.O.T. Proper Shipping Name:

Other Requirements:

Not Hazardous Not Regulated

This product contains no toxic chemicals subject to the report requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (EPRCA)

and of 40 CFR 372.



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The information contained herein is based on the data available to us and is believed to be correct. However, Gateway Composites LLC makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. Gateway Composites LLC assumes no responsibility for injury from the use of the product described herein.

SECTION 15: REGULATORY INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An immediate health hazard
- This product has been classified as "an immediate heath hazard" due to the potential for allergic skin reaction.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

- New Jersey
- Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.



CANADIAN REGULATIONS REGULATORY INFORMATION

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials

Information System (WHMIS) Classification for this product is:

D2B - skin sensitizer Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program. CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS: CAS #
Reaction product of 025085-99-8 100%
epichlorohydrin &
bisphenol A

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All substances in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

SECTION 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 Last Updated: 01/31/2016

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Gateway Composites LLC be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Gateway Composites LLC has been advised of the possibility of such damages.



GATEWAY COMPOSITES | SAFETY DATA SHEET 747 EPOXY HARDENER

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Gateway Composites Epoxy Hardener/Curing Agent

Product Code: 747 Epoxy Hardener

Recommended Uses: Coatings, Adhesives and Composites HMIS ratings: HEALTH 3, FIRE 1 REACTIVITY 0 SDS Number: SDS747EH Date of Prep: 1/31/16

Gateway Composites LLC, 120 East Highway A, Wentzville, MO 63385

Product Type: Amine Polymer Mixture Information: 636-887-0637

24-Hr. Emergency Phone: CHEMTEL 800-255-3924 OR 636-887-0637

SECTION 2 -HAZARD(S) IDENTIFICATION

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200 Classification of the product

Acute Tox. 4 (oral) . Acute toxicity
Acute Tox. 4 (dermal) Acute toxicity

Skin Corr./Irrit. 1B Skin corrosion/irritation

Eye Dam./Irrit. 1 Serious eye damage/eye irritation

Skin Sens. 1A Skin sensitization

Aguatic Acute 3 Hazardous to the aguatic

environment - acute

Aquatic Chronic 3 Hazardous to the aquatic

environment - chronic

Label elements

Pictogram:

Signal Word: Danger



Hazard Statement:

H312 Harmful in contact with skin.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H314 Causes severe skin burns and eye damage.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.



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Precautionary Statements (Prevention):

P280 Wear protective gloves/protective

clothing/eye protection/face protection.

P260 Do not breathe dust or mist.
P273 Avoid release to the environment.

P272 Contaminated work clothing should not be allowed

out of the workplace.

P270 Do not eat, drink or smoke when using this product.
P264 Wash with plenty of water and soap thoroughly

after handling.

Precautionary Statements (Response):

P310 Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several/

minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P304 + P340

IF INHALED: Remove person to fresh air and keep comfortable for

breathing.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P361 + P364 Take off immediately all contaminated clothing and

wash it before reuse.

Precautionary Statements (Storage):

P405 Store locked up.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT WT% CAS#

Aliphatic Amines 70-75% (Mixture is a trade secret)

Benzyl Alcohol 20-30% 100-51-6 (Mixture is a trade secret)



SECTION 4 - FIRST AID MEASURES

Description of first aid measures

General advice: Immediately remove contaminated clothing.

If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to

their own safety.

If inhaled: Remove the affected individual into fresh air and keep the

person calm. Assist in breathing if necessary. Immediate

medical attention required.

If on skin: Wash affected areas thoroughly with soap and water.

Remove contaminated clothing. Immediate medical

attention required.

If in eyes: In case of contact with the eyes, rinse immediately for at least

15 minutes with plenty of water. Immediate medical attention

required.

If swallowed: Rinse mouth and then drink plenty of water. Do not induce

vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate

medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

ing (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physician Treatment: Treat according to symptoms (decontamination, vital

functions), no known specific antidote. Pulmonary adema prophylaxis. Medical monitoring for at least

24 hours.

SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting: No particular hazards known.



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Advice for fire-fighters

Protective equipment for fire-fighting: Firefighters should be

equipped with self-contained

breathing apparatus and turn-out gear.

Further information: Dispose of fire debris and contaminated

extinguishing water in accordance with

official regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions

This product is not regulated by RCRA.

This product is not regulated by CERCLA ('Superfund').

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

- Containers should be opened carefully in well-ventilated areas to avoid static discharge.
- Protection against fire and explosion:
- No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities

- Segregate from acids and acid forming substances. Segregate from isocyanates.
 Segregate from epoxides.
- Suitable materials for containers: Carbon steel (Iron), Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)
- Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep tanks under inert gas.
- Keep away from sources of ignition No smoking. Keep container tightly closed and in a cool place.
- Storage stability: Storage duration: 12 Months
- From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.



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Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

No occupational exposure limits known.

Advice on system design: Provide local exhaust ventilation to control vapors/mists.

Personal protective equipment

Respiratory protection: Wear a NIOSH-certified (or equivalent) organic

vapour/particulate respirator.

Chemical resistant protective gloves, Suitable materials, Hand protection:

polyvinylchloride (Pylox)

Tightly fitting safety goggles (chemical goggles). Eye protection:

Wear face shield if splashing hazard exists.

Body protection must be chosen depending on activity Body protection:

and possible exposure, e.g. head protection, apron,

protective boots, chemical-protection suit.

General safety and

hygiene measures: Eye wash fountains and safety showers must be easily

> accessible. Avoid inhalation of vapours/mists. Wear protective clothing as necessary to prevent contact.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Clear liquid Appearance:

Slight ammonia odor Odor:

Odor threshold: NA :Ha 11 2 Melting point/freezing point: NA Boiling Range: 205C 150C Flash point Evaporation rate: 1.8

Flammability: Product is combustable

Vapor Pressure: .1 @25C Vapor density: 3.72

Solubility: 1g/25ml water at 17C

Partition coefficient: NA Auto-ignition temperature: NA Decomposition Temperature: <400C Viscosity: 200cps

SECTION 10 - STABILITY AND REACTIVITY

Corrosion to metals: No corrosive effect on metal.

Oxidizing properties: Based on its structural properties the product is not classified

as oxidizing.



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Formation of flammable gases: Forms no flammable gases in

the presence of water.

SECTION 11: TOXICOLOGY INFORMATION

Acute toxicity

Oral: Type of value: LD50

Species: rat

Value: 1,030 mg/kg Inhalation: No data available.

Dermal: No data available. The European Union (EU) has classified this

substance as 'harmful'.

Irritation / corrosion

Skin:

Species: rabbit Result: Corrosive.

Eye:

Species: rabbit

Result: Risk of serious damage to eyes.

Method: OECD Guideline 405

Sensitization:

Guinea pig maximization test No mutagenic effects reported.

Experimental/calculated data: Micronucleus assay

No mutagenic effects reported.

Aspiration Hazard: No aspiration hazard expected.

Species: guinea pig Result: sensitizing

Method: OECD Guideline 406

Genetic toxicity

Experimental/calculated data: Ames-test

SECTION 12: ECOLOGICAL INFORMATION

Fish

Acute:

Directive 84/449/EEC, C.1 semistatic Leuciscus idus/LC50 (96 h): 110 mg/l

Nominal values (confirmed by concentration control analytics)

Chronic:

Study scientifically not justified.

Aquatic invertebrates

Acute:



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OECD Guideline 202, part 1 static

Daphnia magna/EC50 (48 h): 23 mg/l

Nominal values (confirmed by concentration control analytics)

semistatic

Chaetogammarus marinus/EC50 (48 h): 388 mg/l

The details of the toxic effect relate to the nominal concentration.

Chronic:

OECD Guideline 202, part 2 semistatic Daphnia magna (NOEC) 21 d 3 mg/l

Nominal values (confirmed by concentration control analytics)

Aquatic plants

Toxicity to aquatic plants:

Directive 88/302/EEC, part C, p. 89 green algae/EC50 (72 h): > 50 mg/l

Nominal concentration.

Microorganisms

Toxicity to microorganisms:

DIN 38412 Part 8 bacterium/EC10 (18 h): 1,120 mg/l

Nominal concentration.

Degradability / Persistence

Biological / Abiological Degradation

Test method: Directive 92/69/EEC, C.4-A (aerobic),

Method of analysis: DOC reduction Degree of elimination: 8 % (28 d)

Evaluation: Not readily biodegradable (by OECD criteria).

Hydrolysis

Test method: OECD Guideline 111

Half-life: (50 °C) Bioaccumulation

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organ-

isms is not to be

expected. Literature data.

Environmental mobility:

Transport between environmental compartments:

calculated adsorption/water - soil

KOC: 928 log KOC: 2.97

Other adverse effects:

Due to the pH-value of the product, neutralization is generally required before discharging sewage into

treatment plants. The inhibition of the degradation activity of activated sludge is not anticipated when introduced

to biological treatment plants in appropriate low concentrations.



SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal of substance: Incinerate in a licensed facility. Do not

discharge substance/product into sewer system.

Container disposal: Dispose of in a licensed facility. Recommend crushing,

puncturing or other means to prevent unauthorized use

of used containers.

SECTION 14: TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Amine UN NUMBER: UN2735

CLASS 8

PKG III DOT HAZARD CLASS: Corrosive Liquid

DOT

Not Regulated

TDG

Not Regulated

MEX

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

ICAO

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

IATA code

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

IMDG Code

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

RID

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III



Fax: 636.548.2288

info@gatewaycomposites.com

ADR

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

ADN

UN?ID# 2735

Corrosive Liquid NOS (Amines)

Class 8

PKG III

24-Hr. Emergency Phone: CHEMTEL 800-255-3924 OR 636-887-0637 SARA Title III:

This product contains no toxic chemicals subject to the report requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (EPRCA) and of 40 CFR 372.

SECTION 15: REGULATORY INFORMATION

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

OSHA hazard category: Acute target organ effects reported; Corrosive to skin and/or eyes;

Sensitizer

EPCRA 311/312 (Hazard categories): Acute; Chronic

SECTION 16: OTHER INFORMATION

HMIS RATINGS:

Health 3

Fire 1

Physical Hazard 0

Created: 10/11/2005

Last Updated: 6/1/2016

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