

Fibrant LLC

SAFETY DATA SHEET

Note: Users of this product should study this data sheet containing important safety information and should make it available to all employees, agents and contractors. If the product is resold, copies of this data sheet should be provided to the purchaser for use with its employees, agents and contractors.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AMMONIUM SULFATE

SYNONYMS: Diammonium Sulfate; Standard or Granular Ammonium Sulfate; Ammonium Sulfate; Sulfuric Acid, Diammonium salt

CAS Number: 7783-20-2

EC Number: 231-984-1

REACH Registration number: 01-2119455044-46-0010

CHEMICAL FORMULA: $(\text{NH}_4)_2\text{SO}_4$

CHEMICAL CATEGORY: Inorganic Salt

MANUFACTURER: Fibrant LLC
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Augusta, Georgia 30901
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TRANSPORTATION EMERGENCIES, CALL: CHEMTREC, 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Recommended Use: This product is used as a fertilizer, intermediate, laboratory chemical, or flame retardants

Restrictions on Use: Not for food ingredient applications.

2. HAZARDS IDENTIFICATION ▲**2.1 Classification of the substance or mixture:**

No Hazard classification according to US OSHA Hazard Communication Standard:

Acute Toxicity	not classified
Skin Irritant	not classified
Eye Irritant	not classified
STOT SE	not classified

Classification according to (UN Globally Harmonized System of Classification and Labeling of Chemicals, 3rd rev.)

Aquatic Acute 3 Hazardous to the aquatic environment - acute

Hazard and Precautionary statements

H402: Harmful to aquatic life.

P273: Avoid release to the environment.

P501: Dispose of contents/container to hazardous or special waste collection point.

Classification according to EU Directive 67/548/EEC [DSD]: Not classified.

Remarks:

**Fibrant LLC****2.2 Label Elements**

Signal Word: not applicable
Pictograms: not applicable
Hazard Statements: Harmful to aquatic life
Precautionary Statements: Avoid release to the environment.
Dispose of contents/container to hazardous or special waste collection point.

2.3 Other Hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1207/2006, Annex XIII: Not applicable.
Substance meets the criteria for vPvB according to Regulation (EC) No. 1207/2006, Annex XIII: Not applicable

Other hazards which do not result in classification: Product dust may be irritating to eyes, skin and respiratory system.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Product/ ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Exposure Limits TLV/PEL
ammonium sulfate	CAS: 7783-20-2 RRN: 01-119455044-46 EC: 231-984-1	100	Not classified. See section 16 for the full text of the R phrases declared above	See Section 16 for the full text of the H statements declared above	None established. A TWA of 10 mg/m ³ (ACGIH) or 15 mg/m ³ (OSHA PEL) total dust and 3 mg/m ³ (ACGIH) or 5 mg/m ³ (OSHA PEL) respirable dust is required for all particulates not otherwise regulated. Because of its irritant nature, occupational exposures to ammonium sulfate dust should be maintained at levels somewhat below the regulatory limit for respirable dusts.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES ▲**4.1 Description of first aid measures**

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing. If eye irritation persists: Get medical advice/attention.

Inhalation: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, call a poison center/doctor.

Skin contact: Wash with plenty of water. If skin irritation occurs, get medical attention. Wash contaminated clothing before reuse.

Ingestion: Rinse mouth with water. Call a poison center / doctor if you feel unwell.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms/effects, both acute and delayed:

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Individuals with asthma may be at increased risk from exposure to ammonium sulfate.

Skin contact: No known significant effects or critical hazards. Prolonged contact with dust may cause skin irritation.

Ingestion: Ingestion may cause gastrointestinal irritation with sore throat, abdominal pain, nausea, diarrhea, and vomiting. Systemic ammonia poisoning is possible if sufficient absorption occurs.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
Irritation, redness

Inhalation: Adverse symptoms may include the following:
respiratory tract irritation, coughing

Skin contact: Adverse symptoms may include the following:
Irritation, redness

Ingestion: Adverse symptoms may include the following:
Nausea, vomiting, diarrhea

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: Specific treatment as prescribed by medical personnel.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Small fire

Suitable: Non-combustible. Use extinguishing media suitable for surrounding materials.

Not suitable: None known.

Large fire

Suitable: Non-combustible. Use extinguishing media suitable for surrounding materials.

Not suitable: None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture: No specific fire or explosion hazard.

Hazardous combustion products: Decomposition products may include the following materials:

Nitrogen oxides

Sulfur oxides

Ammonia Amines

5.3 Advice for firefighters

Special precautions for fire-fighters:

Use water spray to cool fire exposed containers. Do not spray water directly on material unless adequate containment is provided to control runoff.

Special protective equipment for fire-fighters:

Use NIOSH approved self-contained breathing apparatus with full facepiece operated in the pressure demand mode and protective clothing to prevent contact with skin and eyes.

OSHA Flammability Class: Noncombustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic vapors. Decomposition starts at temperatures greater than 235°C (455°F).

Sensitivity to mechanical impact/static discharge: Not expected to be sensitive to mechanical impact or static discharge.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing dust. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill: Approach the release from upwind; ventilate the area. Contain the spill and prevent entry into sewers, water courses, basements or confined areas. Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections:

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Minimize dust generation and accumulation. Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe dusts or ingest material. Wash thoroughly after handling. Launder contaminated clothing before reuse.

See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Keep container tightly closed.

Incompatible materials: Oxidizers, peroxides, potassium chlorate, potassium nitrate, sodium nitrate, sodium hypochlorite, metal chlorates, strong bases. Accidental mixing with oxidizers like potassium chlorate, potassium nitrate or potassium nitrite may result in an explosion hazard during fires.

Avoid contact or mixing with calcium carbonate (lime) or cement products, due to release of ammonia vapor. Corrosive to carbon steel, copper and copper alloys.

Packaging materials

Suitable: paper, plastic, steel, aluminum

7.3 Specific end use(s)

Recommendations: This product is used as a fertilizer, intermediate, laboratory chemical, or flame retardants.

Industrial sector specific solutions: Not available.

8. EXPOSURE CONTROL, PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value is known for ammonium sulfate. A TWA of 10 mg/m³ (ACGIH) or 15 mg/m³ (OSHA PEL) total dust and 3 mg/m³ (ACGIH) or 5 mg/m³ (OSHA PEL) respirable dust is required for all particulates not otherwise regulated.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to the OSHA Technical Manual for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population
ammonium sulfate	DNEL	Long term Dermal	12.8 mg/kg bw/day	Consumers
	DNEL	Long term Inhalation	1.667 mg/m ³	Consumers
	DNEL	Long term Oral	6.4 mg/kg bw/day	Consumers
	DNEL	Long term Dermal	42.667 mg/kg bw/day	Workers
	DNEL	Long term Inhalation	11.167 mg/m ³	Workers

Predicted effect concentrations

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
ammonium sulfate	PNEC	Fresh water	0.312 mg/l	Assessment Factors

8.2 Exposure controls

Appropriate engineering controls: Provide natural or mechanical ventilation sufficient to maintain airborne concentrations below the recommended exposure levels.

Individual protection measures Hygiene measures: Wash hands, forearms and face thoroughly after handling product. Remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety glasses with side shields. Indirectly vented chemical safety goggles are recommended for protection against nuisance dust.

Hand protection: 4-8 hours (breakthrough time): Butyl rubber, PVC

Skin and body: Wear clothing to minimize skin contact; including long sleeved shirt and pants, boots, lab coat, apron or coveralls. Wear appropriate work gloves when handling material to prevent skin contact.

Respiratory protection: Not required in adequately ventilated areas. For exposure above the TLV, use NIOSH approved dust respirator for needed protection. A self contained breathing apparatus should be used in emergencies situations or instances where the exposure levels are not known.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual exposure situation.

Other Controls/Protection: Provide eyewash station and safety shower convenient to work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Solid. [Crystalline powder - granules]
Color	Brownish-gray to white crystals or granules.
Odor	Odorless.
Odor threshold	Not available.
pH	4.5 - 5.5 (concentration 10%)
Melting point	235°C (455°F) decomposition starts
Initial boiling point and boiling range	Decomposes.
Softening range	Not available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Burning time	Not applicable.
Burning rate	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Density (g/cm ³)	1.78 g/cm ³ (20°C)
Bulk density	850 kg/m ³
Solubility	Easily soluble in the following materials: cold water Insoluble in the following materials: methanol and acetone
Solubility in water	76 g/100 ml (20°C)
Solubility at room temperature	76 g/100 ml (20°C)
Partition coefficient	n-octanol/water -5.1
Auto-ignition temperature	Not applicable.
Decomposition temperature	235°C (455°F) decomposition starts
Viscosity	Not applicable.
Explosive properties	Not applicable.
Oxidizing properties	Not applicable.

9.2 Other information

Molecular weight: 132.14 g/mole

Remarks: Not available.

10. STABILITY AND REACTIVITY

10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability: Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid: Avoid heat (to prevent decomposition) and dust levels above the TLV.

10.5 Incompatible materials: Oxidizers, peroxides, potassium chlorate, potassium nitrate, sodium nitrate, sodium hypochlorite, metal chlorates, strong bases. Avoid contact or mixing with calcium carbonate (lime) or cement products, due to release of ammonia vapor. Corrosive to carbon steel, copper and copper alloys.

10.6 Hazardous decomposition products: May release ammonia, oxides of sulfur, oxides of nitrogen, and oxides of carbon.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ammonium sulfate	LD ₅₀ Dermal	Rat	>2000 mg/kg	-
	LD ₅₀ Oral	Rat	4540 mg/kg	-
	LC ₅₀ Inhalation, dusts and mists	Rat	>1000 mg/m ³	8 hours
	RTECS: BS4500000			
	LDLo Oral	domestic animal goat, sheep)	3500 mg/kg	-
	TDLo Oral	MAN	1500 mg/kg	-
	LD ₅₀ Oral	RAT	2840 mg/kg *	-
	LD ₅₀ Oral	MOUSE	640 mg/kg *	-
	LD ₅₀ Intraperitoneal	MOUSE	610 mg/kg	-

Conclusion/Summary: Not available.

Irritation/Corrosion

Conclusion/Summary Skin: Non-irritating to the skin.

Eyes: Non-irritating to the eyes.

Respiratory: Not available.

Sensitizer

Conclusion/Summary Skin: Not sensitizing

Respiratory: Not sensitizing

Mutagenicity

Conclusion/Summary: Non-mutagenic for bacteria and/or yeast.

Carcinogenicity

Conclusion/Summary: No indications for carcinogenicity. Ammonium sulfate is not listed as a carcinogen by the National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

Reproductive toxicity

Conclusion/Summary: No indications for reproduction toxicity.

Teratogenicity

Conclusion/Summary: No indications for mutagenicity.

Specific target organ toxicity (single exposure): Not available.

Specific target organ toxicity (repeated exposure): Not available.

Aspiration hazard: Not available.

Potential acute health effects

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Symptoms related to the physical, chemical and toxicological characteristics

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Inhalation: Adverse symptoms may include the following:

Respiratory tract irritation
Coughing

Ingestion: No specific data.

Skin contact: No specific data.

Eye contact: Adverse symptoms may include the following:

Irritation
Redness

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Remarks: May be mildly irritating. The following applies to ammonium salts in general:

After swallowing: nausea, vomiting, diarrhea

Systemic effects: After intake of large quantities: drop in blood pressure, collapse, CNS disorders, respiratory paralysis, narcosis, heterolysis

12. ECOLOGICAL INFORMATION
12.1 Toxicity

Product / Ingredient	Species	Exposure	Effects	Result
ammonium sulfate	Daphnia	48 hours, Fresh water	Mortality	Acute EC ₅₀ = 169 mg/l
	Fish - Salmo gairdneri (new name: Oncorhynchus mykiss)	96 h, Fresh water, Flow through	Mortality	Acute LC ₅₀ = 141 to 165 mg/L
	Fish - Rainbow trout, Donaldson trout - Oncorhynchus mykiss - 6.2 cm - 2.1 g	96 hours	Mortality	Acute LC ₅₀ = 39 to 44 mg/L
	Perna Viridis (green mussel, seawater)	96 h, Static, salt water	Mortality	Acute EC ₅₀ = 47.7 mg/L

Conclusion/Summary: Not available.

12.2 Persistence and degradability

Conclusion/Summary: Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ammonium sulphate	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Ammonium sulphate	-5.1	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (KOC): Not available.

Mobility: Not available.

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12.5 Results of **PBT** and **vPvB** assessment

PBT: Not applicable.

P: Not available. B: Not available. T: Not available.

vPvB: Not applicable.

vP: Not available. vB: Not available.

12.6 Other adverse effects: No known significant effects or critical hazards.

Remarks: Methods for the determination of biodegradability are not applicable to inorganic substances.

13. DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. **Dispose of empty container and unused material according to applicable federal, state, and local regulations.** Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC or by the US RCRA regulations in 40 CFR 260–279.

Mixing with other materials or other alterations to pure product may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

Packaging

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORTATION INFORMATION

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No	No	No	No
14.6 Special precautions for user	Not available	Not available	Not available	Not available
Additional information	-	-	-	-

Additional Information:

US DOT ID Number:	Not regulated by DOT
DOT Proper Shipping Name:	Fertilizer or Fertilizer Materials VIZ: Sulfate of Ammonia, Dry. (Non-Regulated)
US DOT Hazard Class:	Not regulated by DOT
Marine Pollutant:	No

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available

14.8 Special Precautions:**15. REGULATORY INFORMATION**

Toxic Substance Control Act (TSCA) Inventory Status: Listed on EPA TSCA Section 8(b) Chemical Inventory. Subject to the EPA's Inventory Update Reporting. This chemical is sponsored under the HPV Challenge program by the International Council of Chemical Association (ICCA) HPV Initiative.

OSHA: Not considered highly hazardous chemical.

SARA Title III/CERCLA: Not Regulated.

SARA 302: Not Regulated.

SARA 311/312 Hazard Class: Ammonium Sulfate is listed as an acute health hazard.

SARA 313: Ammonium Sulfate solution deleted from TRI effective 6/30/95; must consider any contribution toward total ammonia releases.

Clean Air Act: This material does not contain any hazardous air pollutants or any Class 1 or 2 Ozone depleters.

Clean Water Act: This material is not listed as a Hazardous Substance, Priority Pollutant or a Toxic Pollutant under the CWA.

Chemical Weapons Convention: Not Regulated.

RCRA P-LIST and U-LIST: Not Regulated.

State Right-To-Know Regulations: Listed in: Massachusetts; New Jersey; Pennsylvania; Rhode Island.

FOREIGN INVENTORY STATUS: Listed on:

Canadian DSL

Canadian Ingredient Disclosure List

European EINECS (EINECS No.: 231-984-1)

Japanese ENCS (ENCS No.: 1-400)

Korean ECL (ELC Serial No.: KE-01743)

Australian AICS

Swiss Giftliste 1 (SWISS No.: G-1121)

Philippines PICCS

WHMIS Classification (Canada): This product is not a WHMIS controlled product in Canada.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern: None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.

**16. OTHER INFORMATION**

Alterations compared to the previous version: Alterations compared to the previous version are marked with a little (blue) triangle. ▲

Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

CLP = Classification, Labeling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

Sources of key data: Literature data and/or investigation reports are available through the manufacturer.

Training advice: Before handling this substance/preparation, the personnel involved should be instructed by means of this safety data sheet.

Notice to reader

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality.

The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.

The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

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Revisions:

September 1992

December 1995

December 1996

August 16, 2000:

Sections: 2, 5, 9, 12 & 15

April 16, 2001:

Sections: 2, 3, 5, 9, 10 & 15

November 16, 2001:

Sections 4, 7, 14 & 15

December 27, 2004:

Section 8

March 11, 2008:

All sections (except 12 & 14)

August 30, 2011:

Section 16 and Company Logo changed.

June 4 2012:

Complete revision for GHS compliance

April 25, 2014:

Address change

January 23, 2016:

Name change, updated hazard and precautionary statements.

Fibrant LLC. has made every effort to provide accurate information, current as of the effective date of this data sheet. Fibrant, however, disclaims any warranties, expressed or implied, regarding accuracy of this information or the properties, fitness, or safety of the product identified herein. Proper use of the information contained herein, and establishment of proper conditions for safe use of the product herein described, are the responsibility of the user. This Material Safety Data Sheet applies only to the product described and may not be valid if the product is altered or combined with other chemicals or products.