Swimway Granular 56
19432, 19405, 24187, 24189

MSDS Document

Product CHLORINATING DICHLORO GRANULES 56%

1. Chemical Product and Company Identification

Trade Name of this Product CHLORINATING DICHLORO GRANULES 56%

MSDS ID MSDS2371

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date 00/00/00

Health:	3
Fire:	0
Reactivity:	1
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Sodium Dichloro-s-triazinetrione, Dihydrate	51580-86-0	99 %	1,5 mg/m3	Not Established	

3. Hazard Identification

Emergency Overview
Harmful by ingestion. Causes burns in contact with the skin and eyes.

Health Effects
Contact with the skin may cause redness, strong burning sensation, with eventual ulceration. Contact with the eyes may cause pain and tears. Impaired vision. Ingestion may cause abdominal pain, nausea, general weakness. Inhalation may cause sore throat, cough, nausea.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Eye Contact
Flush immediately with plenty of water for at least 15 minutes, get medical attention.

Skin Contact
Flush with water for at least 15 minutes while removing contaminated clothing. If irritation persists, get medical attention.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

Ingestion
Call a physician immediately. Do not induce vomiting. Dilute by drinking water or milk. Never give anything by mouth to an unconscious person.

5. Fire Fighting Measures

Flash Point > 150°C

Extinguishing Media
Flood with copious amounts of water, DO NOT use ABC or other dry chemical extinguishers since there is the potential of a violent reaction.

Special Fire Fighting Procedures
Fire fighters should wear full protective clothing including self-contained breathing apparatus.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Sweep and fully collect the spilled product. If there is some non-polluted product left, separate it from the rest and collect it into a clean container with inner plastic bag. Contaminated product must be destroyed.

7. Handling and Storage

Handling Procedures
Use with adequate ventilation. Avoid breathing dusts. Do not get in eyes, on skin, or on

clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Procedures
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Avoid dust formation and control ignition sources.

8. Exposure Controls and Personal Protection

Engineering Controls
Use in well ventilated areas.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
When conditions cause excessive airborne levels of dusts, use NIOSH-approved respiratory equipment with full mask equipped with suitable filter (combined for dust and halogens).

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Solid
Color/Appearance	White granular
Odor	Slight chlorine odor
pH	6.0 - 6.5 (1% solution)
Boiling/Cond. Point	No Information Available
Melting/Freezing Point	240-250°C (Decomposes)
Solubility	25 g/100ml @ 30°C
Vapor Density	Not Applicable
Vapor Pressure	Not Applicable

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions

Conditions to Avoid
Humidity and temperatures over 40°C.

Incompatible Materials
Product attacks metals in general. It reacts with water, oxidant and reducing agents, acids, alkalis, nitrogen products, ammonium salts, urea, amines, quaternary ammonium derivatives, oils, fats, peroxides, cationic tensioactives, etc.

Hazardous Decomposition Products
In combination with the above mentioned products, it decomposes and gives off a great

quantity of heat, chlorine, nitrogen trichloride, chlorine oxides, etc. with subsequent danger of explosion.

Hazardous Polymerization
Will not occur.

11. Toxicological Information

No information available.

12. Ecological Information

Toxic for fish and algae. Do not pour directly to rivers, lakes, etc.

13. Disposal Considerations

Waste Disposal
Observe all federal, state, and local regulations. The responsibility for proper waste disposal is with the owner of the waste.

14. Transportation Information

DOT Shipping Name
Not Regulated

15. Regulatory Information

TSCA
All ingredients of this material are listed on the TSCA inventory.

16. Other Information

EPA Reg. No. 57787-9

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This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

MSDS Document

Product ALKALINITY INCREASER

Swimway Alkalinity Plus
19455

1. Chemical Product and Company Identification

Trade Name of this Product ALKALINITY INCREASER

MSDS ID MSDS2476

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date 00/00/00

Health:	0
Fire:	0
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Sodium hydrogen carbonate	144-55-8		Not Established	15 mg/m3 total dust	

3. Hazard Identification

Emergency Overview
Not classified as a hazardous substance. No adverse effects anticipated.

Health Effects
May be mildly irritating to eyes. Not likely to be hazardous to skin, respiratory tract, or by ingestion. Occasional mild irritation effects to nose and throat may occur from inhalation of dust.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Eye Contact
Flush with large amount of water for at least 15 minutes. Get medical attention if problems persist.

Skin Contact
Wash with soap and water. Remove contaminated clothing. See a physician if irritation occurs.

Ingestion
Drink plenty of water. Never give anything by mouth to an unconscious person. If any discomfort persists, obtain medical attention.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

5. Fire Fighting Measures

Flash Point N/A

Extinguishing Media
Use media suitable for the surrounding fires.

Special Fire Fighting Procedures
Wear appropriate protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Wear appropriate protective equipment and clothing during clean up. Sweep spill and transfer material into appropriate container(s) for disposal. Flush spill area with water.

7. Handling and Storage

Handling Procedures
Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

Storage Procedures
Keep container closed when not in use. Store in a cool, dry place. Store away from incompatible materials.

8. Exposure Controls and Personal Protection

Engineering Controls
Set up ventilation to effectively remove and prevent buildup of any dust generated from the handling of this product.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
If ventilation is not sufficient to effectively prevent buildup of dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Solid
Specific Gravity	2.2
Color/Appearance	White crystalline powder
Odor	Odorless
pH	8.2 (1% solution)
Boiling/Cond. Point	Not Applicable
Melting/Freezing Point	Decomposes
Solubility	Moderate
Vapor Density	Not Applicable
Vapor Pressure	Not Applicable

10. Stability and Reactivity

Chemical Stability
Stable

Conditions to Avoid
None known

Incompatible Materials
Acids.

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Carbon dioxide and sodium carbonate

11. Toxicological Information

Sodium bicarbonate is generally recognized as safe (GRAS) for humans and animals. No significant toxicity is expected.

12. Ecological Information

No information available.

13. Disposal Considerations

Waste Disposal
Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, state, and local regulations. Note that these regulations may also apply to empty containers and liners. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

14. Transportation Information

DOT Shipping Name
Not Regulated

15. Regulatory Information

TSCA
Hazardous Component(s) subject to reporting on the TSCA List.

16. Other Information

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MSDS Document

Product CHLORINATING 3" TABLETS

Swimway Jumbo Tabs

1. Chemical Product and Company Identification

Trade Name of this Product CHLORINATING 3" TABLETS

MSDS ID MSDS2366

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date 00/00/00

Health:	3
Fire:	0
Reactivity:	2
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Trichloroisocyanuric acid	87-90-1	99 %	0.5 ppm Cl. gas	Not Established	1 ppm Cl. gas

3. Hazard Identification

Emergency Overview
Harmful by ingestion. Causes burns in contact with the skin and eyes.

Health Effects
Contact with the skin may cause redness, strong burning sensation, with eventual ulceration. Contact with the eyes may cause pain and tears. Impaired vision. Ingestion may cause abdominal pain, nausea, general weakness. Inhalation may cause sore throat, cough, nausea.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Skin Contact
Flush with water for at least 15 minutes while removing contaminated clothing. If irritation persists, get medical attention.

Eye Contact
Flush immediately with plenty of water for at least 15 minutes, get medical attention.

Ingestion
Call a physician immediately. Do not induce vomiting. Dilute by drinking water or milk. Never give anything by mouth to an unconscious person.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

5. Fire Fighting Measures

Flash Point N/A

Extinguishing Media
Use water. Do not use dry chemical extinguisher containing ammonia compounds.

Special Fire Fighting Procedures
Material does not burn but is an oxidizing agent and will support combustion of other materials. Use breathing apparatus and protective clothing. Use flooding amounts of water.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Sweep and fully collect the spilled product. If there is some non-polluted product left, separate it from the rest and collect it into a clean container with inner plastic bag. Contaminated product must be destroyed.

7. Handling and Storage

Handling Procedures
Use with adequate ventilation. Avoid breathing dusts. Do not get in eyes, on skin, or on clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Procedures
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against

physical damage. Avoid dust formation and control ignition sources.

8. Exposure Controls and Personal Protection

Engineering Controls
Use in well ventilated areas.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
When conditions cause excessive airborne levels of dusts, use NIOSH-approved respiratory equipment with full mask equipped with suitable filter (combined for dust and halogens).

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Solid
Color/Appearance	White powder compressed into tablets
Odor	Slight chlorine odor
pH	2.7 - 3.3 (1% solution)
Boiling/Cond. Point	Not Applicable
Melting/Freezing Point	225°C (decomposes)
Solubility	12 g/liter @ 25°C
Vapor Density	Not Applicable
Vapor Pressure	Not Applicable

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions

Conditions to Avoid
Humidity and temperatures over 40°C.

Incompatible Materials
Product attacks metals in general. It reacts with water, oxidant and reducing agents, acids, alkalis, nitrogen products, ammonium salts, urea, amines, quaternary ammonium derivatives, oils, fats, peroxides, cationic tensioactives, etc.

Hazardous Decomposition Products
In combination with the above mentioned products, it decomposes and gives off a great quantity of heat, chlorine, nitrogen trichloride, chlorine oxides, etc. with subsequent danger of explosion.

Hazardous Polymerization
Will not occur.

11. Toxicological Information

Acute LD50 oral rat: 406 mg/kg

12. Ecological Information

Toxic for fish and algae. Do not pour directly to rivers, lakes, etc. Product hydrolises in diluted aqueous solution giving off hypochlorous and cyanuric acids. The first one is transformed into chloride with time and the action of the sun rays. The second one is biodegradable and practically non toxic. Therefore, the diluted solution can be directly poured to the sewer system, depending on the applicable local regulations, provided the chlorine content is of 0 ppm.

13. Disposal Considerations

Waste Disposal
Add 2.5 kg of sodium carbonate to 10 liters of water, stir and dissolve. Slowly (in about 0.5 hours) add 1 kg of product. Let stand for at least 10 hours. Slowly add (in about 0.5 hours) while stirring 0.5 kg of sodium sulphite. Then check if there is some free-chlorine left. If necessary add more sodium sulphite until chlorine value is 0. Neutralize if necessary.
The above operations should be carried out in the open air wearing suitable equipment, as chlorine gas may be released.
The waste obtained, diluted in a great quantity of water can be poured to the sewer, according to the local regulations, as it only contains a mixture of salts and cyanuric acid which is biodegradable. Another disposal method for dry product is by incineration mixing product with solvents. The incinerator should be provided with a washing system for chlorine combustion gases. Disposal of product should be carried out according to local, state, and federal regulations on industrial waste disposal.

14. Transportation Information

DOT Shipping Name
Trichloroisocyanuric acid, dry

Hazard Class
5.1, Oxidizer

UN Number
UN2468

Packing Group
PG II

15. Regulatory Information

TSCA
Hazardous Component(s) subject to reporting on the TSCA List.

WHMIS
Hazardous Component(s) subject to WHMIS Ingredient Disclosure.

16. Other Information

EPA Reg. No. 57787-15

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MSDS Document

Product COPPER ALGAECIDE 7%

Swimway Alkalinity Plus
19455

1. Chemical Product and Company Identification

Trade Name of this Product COPPER ALGAECIDE 7%

MSDS ID MSDS2373

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date 00/00/00

Health:	1
Fire:	1
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Elemental Copper (from copper-triethanolamine complex)	Not Available	7 %			

3. Hazard Identification

Emergency Overview
Harmful if swallowed. May cause skin and eye irritation.

Health Effects
Contact with eyes or skin may result in irritation. Ingestion may result in gastric disturbances. Inhalation may irritate the respiratory tract.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Eye Contact
Flush with large amount of water for at least 15 minutes. Get medical attention if problems persist.

Ingestion
Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

Skin Contact
Wash with soap and water. Remove contaminated clothing. See a physician if irritation occurs.

5. Fire Fighting Measures

Flash Point N/A

Extinguishing Media
Use media suitable for the surrounding fires.

Special Fire Fighting Procedures
Fire fighters should wear full protective clothing including self-contained breathing apparatus.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Use proper personal protective equipment. Soak up with absorbent material and place in properly labeled containers for disposal.

7. Handling and Storage

Handling Procedures
Do not get in eyes, on skin, or on clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Procedures
Do not store near food or feed. Store in a clean, dry area at a temperature below 95°F (35°C).

Product decomposes above 200°C. Average shelf life under proper storage conditions is 2 years.

8. Exposure Controls and Personal Protection

Engineering Controls
Use in well ventilated areas.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
None required for normal use.

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Liquid
Specific Gravity	1.17
Color/Appearance	Dark blue liquid
Odor	Odorless
pH	8.4
Boiling/Cond. Point	N/A
Melting/Freezing Point	N/A
Solubility	Soluble
Vapor Density	N/A
Vapor Pressure	N/A

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions

Conditions to Avoid
Do not use where pH of water is below 6. Copper chelate may dissociate and release copper ions which could subsequently be precipitated as insoluble copper salts. Should not be applied when water temperature is below 60°F.

Incompatible Materials
No data available.

Hazardous Decomposition Products
None currently known

Hazardous Polymerization
Will not occur.

11. Toxicological Information

Oral LD50 = 1,312 mg/kg.

12. Ecological Information

No information available.

13. Disposal Considerations

Waste Disposal
Dispose of waste in accordance with all federal, state, and local regulations.

14. Transportation Information

DOT Shipping Name
Not Regulated

15. Regulatory Information

TSCA
All ingredients of this material are listed on the TSCA inventory.

16. Other Information

EPA Reg. No. 57787-17

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MSDS Document

Copper Algaecide 7%
19484

Product COPPER ALGAECIDE 7%

1. Chemical Product and Company Identification

Trade Name of this Product COPPER ALGAECIDE 7%

MSDS ID MSDS2373

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date 00/00/00

Health:	1
Fire:	1
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Elemental Copper (from copper-triethanolamine complex)	Not Available	7 %			

3. Hazard Identification

Emergency Overview
Harmful if swallowed. May cause skin and eye irritation.

Health Effects
Contact with eyes or skin may result in irritation. Ingestion may result in gastric disturbances. Inhalation may irritate the respiratory tract.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Eye Contact
Flush with large amount of water for at least 15 minutes. Get medical attention if problems persist.

Ingestion
Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

Skin Contact
Wash with soap and water. Remove contaminated clothing. See a physician if irritation occurs.

5. Fire Fighting Measures

Flash Point N/A

Extinguishing Media
Use media suitable for the surrounding fires.

Special Fire Fighting Procedures
Fire fighters should wear full protective clothing including self-contained breathing apparatus.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Use proper personal protective equipment. Soak up with absorbent material and place in properly labeled containers for disposal.

7. Handling and Storage

Handling Procedures
Do not get in eyes, on skin, or on clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Procedures
Do not store near food or feed. Store in a clean, dry area at a temperature below 95°F (35°C).

Product decomposes above 200°C. Average shelf life under proper storage conditions is 2 years.

8. Exposure Controls and Personal Protection

Engineering Controls
Use in well ventilated areas.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
None required for normal use.

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Liquid
Specific Gravity	1.17
Color/Appearance	Dark blue liquid
Odor	Odorless
pH	8.4
Boiling/Cond. Point	N/A
Melting/Freezing Point	N/A
Solubility	Soluble
Vapor Density	N/A
Vapor Pressure	N/A

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions

Conditions to Avoid
Do not use where pH of water is below 6. Copper chelate may dissociate and release copper ions which could subsequently be precipitated as insoluble copper salts. Should not be applied when water temperature is below 60°F.

Incompatible Materials
No data available.

Hazardous Decomposition Products
None currently known

Hazardous Polymerization
Will not occur.

11. Toxicological Information

Oral LD50 = 1,312 mg/kg.

12. Ecological Information

No information available.

13. Disposal Considerations

Waste Disposal
Dispose of waste in accordance with all federal, state, and local regulations.

14. Transportation Information

DOT Shipping Name
Not Regulated

15. Regulatory Information

TSCA
All ingredients of this material are listed on the TSCA inventory.

16. Other Information

EPA Reg. No. 57787-17

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This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

MSDS Document

Product FILTER HELPER

1. Chemical Product and Company Identification

Trade Name of this Product FILTER HELPER

MSDS ID MSDS0790

Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691

Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887

Revision Date 00/00/00

Health:	2
Fire:	0
Reactivity:	1
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Aluminum sulfate	10043-01-3		2 mg/m3 as Al	2 mg/m3 as Al	

3. Hazard Identification

Emergency Overview
Harmful if swallowed. May cause skin and eye irritation.

Health Effects
Prolonged contact may irritate or burn skin - especially in the presence of moisture. Inhalation of dust may irritate mucous membranes or respiratory passages. Direct eye contact may cause permanent damage.

Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Skin Contact
Wash with soap and water. Remove contaminated clothing. See a physician if irritation occurs.

Eye Contact
Flush with large amount of water for at least 15 minutes. Get medical attention if problems persist.

Inhalation
Fresh air should alleviate any respiratory discomfort. If breathing difficulties develop or persist, get medical attention.

Ingestion
If swallowed, induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately.

5. Fire Fighting Measures

Flash Point N/A

Extinguishing Media
Water spray, foam, carbon dioxide, dry chemical

Special Fire Fighting Procedures
Fire fighters should wear full protective clothing including self-contained breathing apparatus.

Unusual Fire Hazard
None known.

6. Accidental Release Measures

Spill and Leak Procedures
Wear appropriate protective equipment and clothing during clean up. Sweep spill and transfer material into appropriate container(s) for disposal.

7. Handling and Storage

Handling Procedures
Do not inhale. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Wash clothing after use.

Storage Procedures
Store in a dry, cool, and well ventilated area. Keep away from incompatibles. Keep

container tightly closed and dry.

8. Exposure Controls and Personal Protection

Engineering Controls
Use local exhaust ventilation to keep airborne concentrations of dust below permissible exposure levels.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
If ventilation is not sufficient to effectively prevent buildup of dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Other Protective Equipment
Flowing water source should be available. Prevent contact with skin & clothing by using protective garments.

9. Physical and Chemical Properties

Physical State	Solid
Specific Gravity	1.61
Color/Appearance	White or creamy white granules or powder
Odor	Odorless
pH	~3.5 (1% solution)
Boiling/Cond. Point	Not Applicable
Melting/Freezing Point	Not Applicable
Solubility	50% at 0°C
Vapor Density	Not Applicalbe
Vapor Pressure	Not Applicable

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions

Conditions to Avoid
Excessive heat.

Incompatible Materials
Alkali. Water reactive substances.

Hazardous Decomposition Products
Oxides of sulfur.

Hazardous Polymerization
Will not occur.

11. Toxicological Information

Aluminum sulfate:
LD50 (oral, mouse): 6207 mg/kg
LD50 (oral, rat): 1930 mg/kg

12. Ecological Information

Aluminum sulfate:
LC50 Largemouth bass, 250 ppm, 96 hours

13. Disposal Considerations

Waste Disposal
Dispose of waste in accordance with all federal, state, and local regulations.

14. Transportation Information

DOT Shipping Name
Not Regulated

NOTE: Containers weighing 5000 lbs. or more are regulated by the DOT as follows: Environmentally hazardous substances, solid, n.o.s. (aluminum sulfate), Hazard Class 9, UN3077, PG III.

15. Regulatory Information

Reportable Quantity
5000 lb.

TSCA
Hazardous Component(s) subject to reporting on the TSCA List.

16. Other Information

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

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