



SAFETY DATA SHEET  
Flock - 0200

Product Name: Flock  
Date: 6/30/2015

SECTION 1 IDENTIFICATION

Supplier: Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502  
Distributor:  
U.S. PERS Emergency Telephone: 1-800-633-8253  
Product Name: Flock  
Synonyms: Alum; Aluminum Sulphate; Aluminum Alum; Aluminum Sulfate (2:3);  
Aluminum Sulfate (Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>)  
Chemical Name: Aluminum Sulfate  
Chemical Formula: Al<sub>2</sub>O<sub>12</sub>S<sub>3</sub>  
CAS Number: 10043-01-3  
Product Use: Helps clear cloudy water in swimming pools.

SECTION 2 HAZARDOUS COMPONENTS

EMERGENCY OVERVIEW

Warning



Hazard Statement(s)  
H302: Harmful if swallowed.  
H319: Causes serious eye irritation.  
H315: Causes skin irritation.  
H335: May cause respiratory irritation.

Precautionary Statement(s)  
P262: Do not get in eyes, on skin, or on clothing.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P264: Wash hands thoroughly after handling.  
P321: Specific treatment (see First Aid Measures on this label).

Potential Health Effects:  
General Advice: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Percent
Aluminum Sulfate	17927-65-0	100%



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SECTION 4 **FIRST-AID MEASURES**

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Skin Contact:** Remove contaminated clothing. Wash off with soap and plenty of water. If irritation develops, consult a physician.

**Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes. If irritation persists consult a physician.

**Ingestion:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5 **FIRE FIGHTING MEASURES**

**Flammability:** Product is not flammable and will not burn.

**Controls:** To maintain integrity use water to keep product storage containers and transfer systems cool. If possible, remove portable product storage containers from areas under fire threat.

**Hazards:** In a fire dried product can decompose at elevated temperatures (>650°C/>120°F) resulting in the formation of oxides of sulfur fumes. Exposure to products of decomposition during a fire may be hazardous to health. Stay up wind and avoid low areas.

**Special Equipment:** In case of possible exposure to products of decomposition use appropriate self-contained or other approved respiratory protection. Consult engineers if necessary.

**Mechanical Impact:** Not sensitive.

**Static Discharge:** Not sensitive.

SECTION 6 **ACCIDENTAL RELEASE MEASURES**

**General:** Site specific procedures to address accidental spills will be necessary as dictated by facility design, location, staffing, containment structures, and regulatory requirements. Consult engineers if needed.

**Personal Protection:** In the event of a spill, clear unnecessary people from spill area. If direct contact with spilled material is likely use protective equipment.

**General Spills:** Manage spill using containment structures or inert materials and collect for reuse. Product not reused can be neutralized and converted to aluminum hydroxide using a mild alkali such as calcium carbonate (agricultural lime), soda ash or sodium bicarbonate.

**Small Spills:** Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for disposal in accordance with local, state, province, and federal regulations. Consult engineers if needed.

**Large Spills:** Caution: When neutralizing large spills, CO<sub>2</sub> will be created and can be a breathing hazard. Take steps to provide adequate ventilation. Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for disposal in accordance with local, state, province, and federal regulations. Consult engineers if needed.



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SECTION 7 **HANDLING AND STORAGE**

**Incompatible Chemicals:** Avoid contact with sodium hypochlorite (bleach), chlorites, sulfites, strong bases, aqua ammonia.

**Containment:** To minimize the possibility of a release into the environment and contact with other incompatible chemicals storage tanks and containers should have a dedicated liquid tight secondary containment system.

**General Hygiene:** Do not eat, drink, take medication or smoke when direct contact is possible. Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

**Storage:** Keep in cool and dry location. Exposure to excessive humidity or water will result in product hardening.

**Ventilation:** No special requirements.

**Personal Protection:** If direct contact with material is likely, use protective equipment.

SECTION 8 **EXPOSURE CONTROL/PERSONAL PROTECTION**

**Control Parameters**

**Components with workplace control parameters**

Component	CAS-No.	Value	Control Parameters	Basis
Aluminum Sulfate	17927-65-0	TWA	2 mg/m <sup>3</sup>	USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000
		TWA	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		TWA	2 mg/m <sup>3</sup>	USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000
		TWA	2 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits

**Exposure Controls**

**Appropriate Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Have appropriate eye wash and safety shower stations available in the work area.

**Personal Protective Equipment**

**Respiratory Protection:** Local passive ventilation is typically used. Under normal conditions respiratory protective equipment is not needed. If work requires direct exposure to product dust, use appropriate, approved respiratory protection. Consult engineers if necessary.

**Eye/Face Protection:** Use protective eye glasses/goggles and face shield protection to prevent direct contact.

**Skin Protection:** Use impervious gloves and foot covering. Wear long sleeve shirts and full-length trousers.



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SECTION 9 **PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Solid. White to off-white granules and powder.
<b>Upper/lower flammability limits:</b>	Not Available
<b>Auto-Ignition Temperature:</b>	Not Available
<b>Flash Point:</b>	Not Available
<b>Odor:</b>	Not significant.
<b>Vapor Density:</b>	Not Available
<b>pH:</b>	>2.0 @ 25°C (77°F) saturated solution / Typical: 2.2-2.5
<b>Density:</b>	1.645 ± S.G.
<b>Melting/Freezing Point:</b>	145°C ±
<b>Boiling Point/Range:</b>	Not Available
<b>Water Solubility:</b>	50% at 230°F ±
<b>Evaporation Rate:</b>	Not Available
<b>Partition Coefficient (n-octanol/water):</b>	Not Available. Inorganic compound column 2 of REACH Annex VII.
<b>Decomposition Temperature:</b>	>650°C (>1202°F)
<b>Viscosity:</b>	Not available
<b>VOC:</b>	0.0

SECTION 10 **STABILITY AND REACTIVITY**

**Reactivity:** Not reactive.

**Chemical Stability:** Product is chemically stable under normal ambient temperature and conditions while stored or used.

**Conditions to Avoid:** Do not exceed 650°C (1202°F)

**Materials to Avoid:** Chlorite, hypochlorite, sulfites, strong bases, common metals.

**Hazardous Reactions:** Contact with strong bases may result in exothermic reactions.

**Hazardous Decomposition Products:** Thermal decomposition of dried product can release irritating fumes.

SECTION 11 **TOXICOLOGICAL INFORMATION**

**Toxicity:** Review suggests low order of acute toxicity.

<b>Oral (Ingestion) Estimate:</b>	LD50/Oral Rat >2,000mg/kg (as aluminum)
<b>Inhalation Estimate:</b>	LD50/Inhalation Rat >5.6mg/l (as aluminum)
<b>Dermal Estimate:</b>	LD50/Dermal: >2,000mg/kg (as aluminum)

**Effects of Exposure**

**Skin:** Repeated contact may dry and irritate skin.

**Eyes:** Will cause irritation, untreated exposure may result in damage to the eye.

**Respiratory:** Inhalation of dust may cause bronchial/lung irritation and coughing.

**Mucous Membranes:** May cause irritation.

**Ingestion:** May cause vomiting, pain and discomfort to mouth, throat, and stomach.



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**Sensitization:** Not sensitizing.

**Carcinogenicity:** NTP: Not Listed. IARC: Not Listed. OSHA: Not Listed.

**Reproductive Toxicity, Mutagenic or Teratogenic Effects:** No known reproductive toxicity, mutagenic or teratogenic effects in animal experiments are known.

SECTION 12 **ECOLOGICAL INFORMATION**

**Aquatic Toxicity:** Material not neutralized may exhibit toxicity to some aquatic organisms in waters having a pH of <5.5 or >8.5.

With preapproval; Federal, State, and EU regulators allow the direct application of aluminum salts into surface waters such as lakes, ponds, and streams for beneficial use in:

- Phosphorus inactivation.
- Cyanobacteria (Blue-Green Algae) control.
- Turbidity reduction for improved water clarity.

Reported at the environmentally relevant pH range of 5.5-8.8 the solubility of aluminum is low. Aluminum salts dissociate with water resulting in rapid formation and precipitation of aluminum hydroxides. Aluminum salts must not be introduced into lakes or rivers in an uncontrolled way. In aquatic environments at a pH <5.5 and >8.8 the direct addition of aluminum salts may result in soluble aluminum, and until a pH range of 5.5-8.98 is reached could demonstrate toxicity and become harmful to some aquatic organisms.

**For Aluminum (read across analogy PACL data):**

- LC50 / 96h / Danio rerio guideline 203: >1,000 mg/l as Al
- EC50 / water flea / semi static test guideline 202: 98 mg/l as Al

**Toxicity to Other Organisms:** Not available.

**Bioaccumulation Potential:** This product is not expected to bioaccumulate.

**Biodegradability:** Not applicable to inorganic substances.

**Chemical Degradability:** In water at pH range of 5.5-8.8 precipitates of aluminum hydroxide are formed.

**Mobility in Soil:** Not available.

SECTION 13 **DISPOSAL CONSIDERATIONS**

**RCRA Hazardous Waste:** Unused material is not listed as a hazardous waste. Consult engineers if necessary.

**Neutralization:** Collect for reuse. If unable to reuse dispose of in accordance with local, state, province, and federal regulations. Consult engineers if necessary.

**Special Precautions:** None known.

**Container Reuse:** Packaging and storage containers that cannot be thoroughly cleaned must be disposed of in accordance with local, state, province, and federal regulations. Consult engineers if necessary.

SECTION 14 **TRANSPORT INFORMATION**

**DOT:** **UN Number:** ORM-D  
**UN Proper Shipping Name:** ORM-D



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**Transport Hazard Class:** ORM-D  
**Packing Group:** ORM-D

*Consumer commodity* (ORM-D) means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use. Valid until December 31, 2020.

SECTION 14 **TRANSPORT INFORMATION - Continued**

**IMDG: UN Number:** 3077  
**UN Proper Shipping Name:** Environmentally Hazardous Substance (Aluminum Sulfate) N.O.S.  
**Transport Hazard Class:** 9  
**Packing Group:** III  
**Marine Pollutant:** No

**IATA: UN Number:** 3077  
**UN Proper Shipping Name:** Environmentally Hazardous Substance (Aluminum Sulfate) N.O.S.  
**Transport Hazard Class:** 9  
**Packing Group:** III  
**Marine Pollutant:** No

SECTION 15 **REGULATORY INFORMATION**

**RCRA Hazardous Waste:** Not listed. Consult engineers if necessary.

**CERCLA Hazardous Substance:** Not listed CWA, Sec.311 (b)(4).

**CERCLA Reportable Quantity (RQ):** Not regulated in single containers <5,000 lbs. Consult engineers if necessary.

**SARA 311/312 Categories:** Acute (immediate) health effects

**Chronic (delayed) health effects:** No

**Sudden release of pressure hazard:** No

**Reactivity Hazard:** No

**SARA 313 Toxic Chemical Listing:** Not listed.

**SARA Extremely Hazardous Substance (EHS):** Not listed.

**OSHA Air (29CFR 1910.10000, table Z-1, Z-1A):** Not listed.

**OSHA Special Regulated Substance (29CFR 1910):** Not listed.

**WHMIS:** E corrosive

**United States TSCA Section Inventory Status:** Product exempt or listed on the TSCA Inventory.

**Canada CEPA/Canadian Domestic Substances List (DSL):** All components of this product are included on the Domestic Substance List (DSL) or are not required to be listed.

**State – Province Regulations:** State and Province specific regulations have not been determined by Phoenix Products Company. Consult engineers if necessary.



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**Inventories:** Chinese, Korean (ECL), Philippines (PICCS), Japanese (ENCS), European (EINECS), NZ.

SECTION 16 <b><i>OTHER INFORMATION</i></b>
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No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which the information refers.

Date: 6/30/2015  
Phoenix Products Company