SAFETY DATA SHEET

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Praestol™ 857 BS FLOCCULANT
™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries
383052

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Solenis LLC 500 Hercules Road Wilmington, Delaware 19808	Contact us at	www.solenis.com
	Emergency telephone number	1-844-SOLENIS (844-765-3647) / 606-329-5705
Product name	Praestol™ 857 BS FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries	
Product code	383052	
Product Use Description	Flocculating agent	

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: solid, powder, white

NOTICE: WHILE THIS MATERIAL HAS A LOW LEVEL OF TOXICITY, GOOD INDUSTRIAL HYGIENE PRACTICES ARE ENCOURAGED TO MINIMIZE EXPOSURE.

Potential Health Effects

Exposure routes
Inhalation, Skin contact, Eye Contact, Ingestion

Eye contact
Dust can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin contact
Unlikely to cause skin irritation or injury.

Ingestion
Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation
This material is a dust or may produce dust. Prolonged or repeated breathing of this material may result in chronic bronchitis (inflammation of the airways of the lungs). Symptoms include coughing and shortness of breath. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, lung (for example, asthma-like conditions)

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Headache, Dizziness

Target Organs

No data.

Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Polymer

Hazardous Components	CAS-No. / Trade Secret No.	Concentration
AMIDE	254504001-5518	>=5-<10%
ORGANIC ACID	254504001- 6297	>=1.5-<5%
SODIUM SULFATE	7757-82-6	>=1-<1.5%
AMIDE	254504001- 6299	>=0.5-<1%

4. FIRST AID MEASURES

Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin

First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: No information available.

Treatment: No hazards which require special first aid measures.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Water spray

Hazardous combustion products

acid vapors, Ammonia, carbon dioxide and carbon monoxide, Nitrogen oxides (NOx), sulfur oxides

Precautions for fire-fighting

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Not applicable

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Material can create slippery conditions. Avoid breathing dust.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Pick up and arrange disposal without creating dust. The area should be thoroughly flushed with water and scrubbed to remove residue. If slipperiness remains, apply more dry-sweeping compound.

Other information

Comply with all applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Avoid dust formation. This material is slippery when wet.

Storage

Store in a cool, dry, ventilated area. Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

AMIDE		**254504001-5518**	
WEEL	time weighted average	10 mg/m3	Total particulate.
AMIDE		**254504001- 6299**	

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Avoid breathing dust.

Exposure controls

Provide appropriate exhaust ventilation at places where dust is formed. Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear safety glasses or chemical splash goggles when dust exposure is possible.

Skin and body protection

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.
Wear resistant gloves (consult your safety equipment supplier).

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable)

or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	solid
Form	powder
Colour	white
Odour	very faint
Boiling point/boiling range	/ Not applicable
pH	7 @ 10 g/l
Flash point	Not applicable
Ignition temperature	> 400.00 °C
Lower explosion limit/Upper explosion limit	30,000 mg/m3 /
Density	(ca.) 0.72 g/cm3
Bulk density	(ca.) 600 kg/m3
Water solubility	soluble
Decomposition temperature	> 150 °C

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
Keep away from heat, flame, sparks and other ignition sources.

Incompatible products
Acids, chlorates, Chlorine, Metals, nitrates, Oxidizing agents, Strong bases, strong reducing agents, Peroxides

Hazardous decomposition products
acid vapors, carbon dioxide and carbon monoxide, Nitrogen oxides (NOx), Sulphur oxides, Ammonia

Hazardous reactions
Product will not undergo hazardous polymerization.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Eye Contact Ingestion

Product

Acute oral toxicity	:	LD 50Rat > 5,000 mg/kg
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available
Skin corrosion/irritation	:	Result: Not irritating to skin
Serious eye damage/eye irritation	:	
Respiratory or skin sensitisation	:	Species: Guinea pig Classification: Did not cause sensitisation on laboratory animals. Method: OECD Test Guideline 406

Components:

AMIDE:
Germ cell mutagenicity

Genotoxicity in vitro	:	Type: Ames test Result: negative

ORGANIC ACID:

Acute oral toxicity	:	LD 50 Rat: 3 g/kg

SODIUM SULFATE:

Acute oral toxicity	:	LD 50 Mouse: 5,989 mg/kg

AMIDE:

Acute oral toxicity	:	LD 50 Rat: > 5,000 mg/kg
Acute dermal toxicity	:	LD 50 Rabbit: > 2 g/kg

Not classified as acutely toxic by dermal absorption under GHS.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies (dermal)

12. ECOLOGICAL INFORMATION

Ecotoxicity
Product:

Toxicity to fish : LC 50 (Fish): > 1 - 10 mg/l
Exposure time: 96 h
Information given is based on data on the components and the ecotoxicology of similar products.
Test conducted using environmentally representative water.

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10 mg/l
Exposure time: 48 h
Information given is based on data on the components and the ecotoxicology of similar products.
Test conducted using environmentally representative water.

Components:

AMIDE:

Toxicity to fish : LC 50 (Leuciscus idus (Golden orfe)): > 6,810 mg/l
Exposure time: 96 h

LC 50 (Poecilia reticulata (guppy)): 17,500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 3,910 mg/l
Exposure time: 48 h
Method: Static

ORGANIC ACID:

Toxicity to fish : LC 50 (Carassius auratus (goldfish)): 440 - 706 mg/l
Exposure time: 96 h

SODIUM SULFATE:

Toxicity to fish : LC 50 (Bluegill (Lepomis macrochirus)): 3,040 mg/l

Exposure time: 96 h
Test Method: static test

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (Daphnia magna)): 4,060 - 5,360 mg/l
Exposure time: 48 h
Test Method: static test

AMIDE:

Toxicity to fish : LC 50 (Danio rerio (zebra fish)): 3.6 mg/l
Exposure time: 96 h
Test Method: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia pulex)): 2.15 mg/l
Exposure time: 48 h
Test Method: static test

Toxicity to algae : EC 50 (Desmodesmus subspicatus (green algae)): 2.2 mg/l
Exposure time: 72 h

Persistence and degradability

Product:

Physico-chemical removability : At natural pHs (>6) the product degrades due to hydrolysis to more than 70% in 28 days.
The hydrolysis products are not harmful to aquatic organisms.

Components:

AMIDE:

Biodegradability : Expected to be ultimately biodegradable

SODIUM SULFATE:

Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

AMIDE:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Product:

No data available

Components:

AMIDE:

Bioaccumulation	:	Species: Green algae (Chlorella fusca vacuolata) Exposure time: 24 h Concentration: 0.05 mg/l Bioconcentration factor (BCF): 11,700 Method: Static
Partition coefficient: n-octanol/water	:	log Pow: -2.11

Mobility in soil

Product:

No data available

Components:

No data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - ROAD

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.	

SARA Hazard Classification
SARA 311/312 Classification
Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 313 Component(s)

AMMONIUM SULFATE	5.00 %

Notification status

US. Toxic Substances Control Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Japan. ENCS - Existing and New Chemical Substances Inventory	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)

	HMIS	NFPA
Health	1*	1
Flammability	0	0
Physical hazards	0	
Instability		0
Specific Hazard	--	--

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement

IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System