Date prepared: MARCH 2010
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SDS No. IM.1.1.1.C

## Section 1 – Product Identification

**IDENTITY:** *Product Name:* **InjectPro PM3811-HARDENER**
Powder - Component – B (SDS 3 of 3)

for products:
**InjectPro-PM3811-SoilStabilizer; PM3811-Flex; PM3811-Fast; + PM3811-UltraSeal**

*Product Use Description:* **Injection resin**

AQUAFIN, INC.
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ELKTON, MD 21921

24 hr Emergency Phone: Chem-Tel **(800) 255-3924**
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Recommended use of the chemical and restriction on use: Refer to the product technical data sheet. For industrial and professional users.

## Section 2 – Hazards Identification

### GHS Classification:

| | |
|---|---|
| Acute toxicity, oral, Category 4 | H302: Harmful if swallowed. |
| Skin irritation, Category 3 | H316: Causes mild skin irritation. |
| Serious eye irritation, Category 2B | H320: Causes eye irritation. |
| Acute toxicity, inhalation, Category 4 | H332: Harmful if inhaled. |

### GHS Label element:

**Hazard Pictograms**

GHS07

Signal Word: Warning

Hazard Statements:
H302: Harmful if swallowed.
H316: Causes mild skin irritation.
H320: Causes eye irritation.
H332: Harmful if inhaled.

Precautionary Statements:
**Prevention:**
P102: Keep out of reach of children.
P264: Wash skin thoroughly after handling.
P280: Wear protective gloves/protective clothing/ eye protection/face protection.

**Response:**
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned, get medical advice/attention.
P332 + P313: IF skin irritation occurs, get medical advice/attention.
P362: Take off contaminated clothing and wash before reuse.

**Storage:**
P403 + P232: Store in a well-ventilated place. Protect from moisture.
**Disposal:**
P501: Dispose of contents/container to an approved waste disposal site.
P502: Refer to manufacturer/supplier for information on recovery/recycling.

## Section 3 – Composition / Information on Hazardous Ingredients

| Hazardous Components | CAS No. | Wt. % | EC No. | EC Class |
|---|---|---|---|---|
| Sodium Persulfate | 7775-27-1 | >99 | 231-892-1 | Xn-O; R8-R22-R36/37/38-R42/43 |

**Note:** There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## Section 4 – First Aid Measures

**Emergency Overview:** White, odorless, crystals.
Oxidizer. Decomposes in storage under conditions of moisture (water/water vapor) and/or excessive heat causing release of oxides of sulfur and oxygen that supports combustion. Decomposition could form a high temperature melt. See Section 10 ("Stability and Reactivity").

**Potential Health Effects:** Airborne persulfate dust may be irritating to eyes, nose, lungs, throat and skin upon contact. Exposure to high levels of persulfate dust may cause difficulty in breathing in sensitive persons.

**Inhalation:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**Ingestion:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**Skin Contact:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**Eye Contact:** Flush with plenty of water. Get medical attention if irritation occurs and persists.

## Section 5 – Fire Fighting Measures

**Extinguishing Media:** Water. Cool containers with flooding of water until well after fire is out.

**Unsuitable Extinguishing Media:** Do not use carbon dioxide or other gas filled fire extinguishers; they will have little effect on decomposing persulfate.

**Fire / Explosion Hazards:** Product is non-combustible. On decomposition releases oxygen which may intensify fire. Presence of water accelerates decomposition.

**Fire Fighting Procedures:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## Section 6 – Accidental Release Measures

**Person-related Safety Precautions:** Avoid eye and skin contact. Avoid breathing dust. Wear personal protective equipment.

**Methods for containment:** Vacuum, shovel or pump waste into a drum and label for disposal. Avoid dust formation. Store in closed container.

**Methods for cleaning-up:** Clean up spill area and treat as special waste.

**Waste Disposal Method:** Dispose in accordance with local, state and federal regulations.

## Section 7 – Handling and Storage

**Handling:** Use adequate ventilation when transferring product from bags or drums. Avoid dust formation. Wear respiratory protection if ventilation is inadequate or not available. Use eye and skin protection. Use clean plastic or stainless steel scoops only.

**Storage:** Store (unopened) in a cool, clean, dry place away from point sources of heat, e.g. radiant heaters or steam pipes. Use first in, first out storage system. Avoid contamination of opened product. In case of fire or decomposition (fuming/smoking) deluge with plenty of water to control decomposition. For storage, refer to NFPA Bulletin 430 on storage of liquid and solid oxidizing materials.

## Section 8 – Exposure Controls / Personal Protection

| Product | | Exposure Limits |
|---|---|---|
| Sodium Persulfate | 7775-27-1 | **ACGIH** TWA: 0.1 mg/m$^3$ (TWA) |

**Engineering Controls:** Provide mechanical local general room ventilation to prevent release of dust into the work environment. Remove contaminated clothing immediately and wash before reuse.

**Respiratory Protection:** Use approved dust respirator when airborne dust is expected.

**Skin Protection:** Suitable work clothes. Rubber or neoprene footwear.

**Hand Protection:** Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**Eye & Face Protection:** Use cup type chemical goggles. Full face shield may be used.

**Hygiene Measures:** Keep away from food and drink. Do not eat, drink or smoke when using this product. Wash hands before breaks and after shifts. Keep work clothes separate, remove contaminated clothing – launder after open handling of product.

## Section 9 – Physical and Chemical Properties

**Physical state:** Powder
**Odor:** None
**Appearance:** White crystals
**Autoignition Temperature:** Not applicable. No evidence of combustion up to 800°C. Decomposition will occur upon heating.
**Boiling Point:** Decomposes
**Oxidizing Properties:** Oxidizer

| | |
|---|---|
| **Evaporation Rate:** | Not applicable (Butyl Acetate = 1) |
| **Flash Point:** | Not flammable |
| **Melting Point:** | Decomposes |
| **Odor Threshold:** | Not applicable |
| **Oxidizing Properties:** | Oxidizer |
| **Percent Volatile:** | Not applicable |
| **pH:** | typically 5.0 - 7.0 @ 25 °C (1% solution) |
| **Solubility in Water:** | 73 % @ 25 °C (by wt.) |
| **Specific Gravity:** | 1.7 - 2.6 g/dm$^3$ (H2O=1) |
| **VOC:** | Not applicable |
| **Vapor Density:** | Not applicable (Air = 1) |
| **Vapor Pressure:** | Not applicable |

## Section 10 – Stability and Reactivity

**Stability:** Stable (becomes unstable in presence of heat, moisture and/or contamination).

**Conditions to Avoid:** Heat, (decomposes at 275$^0$C (527$^o$F)) Moisture.

**Hazardous Polymerization:** Will not occur

**Incompatibilities:** Acids, alkalis, halides (fluorides, chlorides, bromides and iodides), combustible materials, most metals and heavy metals, oxidizable materials, other oxidizers, reducing agents, cleaners, and organic or carbon containing compounds. Contact with incompatible materials can result in a material decomposition or other uncontrolled reactions.

**Hazardous Decomposition Products:** Oxygen that supports combustion and oxides of sulfur.

**Comments:** Precautionary Statement: Use of persulfates in chemical reactions requires appropriate precautions and design considerations for pressure and thermal relief. Decomposing persulfates will evolve large volumes of gas and/or vapor, can accelerate exponentially with heat generation, and create significant and hazardous pressures if contained and not properly controlled or mitigated. Use with alcohols in the presence of water has been demonstrated to generate conditions that require rigorous adherence to process safety methods and standards to prevent escalation to an uncontrolled reaction.

## Section 11 – Toxicological Information

**Acute Effects:**

| | |
|---|---|
| **Eye Effects:** | Non-irritating (rabbit) [FMC Ref. ICG/T-79.029] |
| **Skin effects:** | Non-irritating (rabbit) [fmc ref. Icg/t-79.029] |
| **Dermal LD50:** | > 10 g/kg [fmc ref. Icg/t-79.029] |
| **Oral LD50:** | 895 mg/kg (rat) [fmc ref. Icg/t-79.029] |
| **Inhalation LC50:** | 5.1 mg/l (rat) [fmc ref. I95-2017] |
| **Sensitization:** | May be sensitizing to allergic persons. [fmc ref. Icg/t-79.029] |
| **Target organs:** | Eyes, skin, respiratory passages |

**Acute effects from overexposure:** Dust may be harmful and irritating. May be harmful if swallowed.

**Chronic effects from overexposure:** Sensitive persons may develop dermatitis and asthma [Respiration 38:144, 1979]. Groups of male and female rats were fed 0, 300 or 3000 ppm sodium persulfate in the diet for 13 weeks, followed by 5000 ppm for 5 weeks. Microscopic examination of tissues revealed some injury to the gastrointestinal tract at the high dose (3000 ppm) only. This effect is not

unexpected for an oxidizer at high concentrations. [Ref. FMC I90-1151, Toxicologist 1:149, 1981].

**Carcinogenicity:**

| | |
|---|---|
| **NTP:** | Not listed |
| **IARC:** | Not listed |
| **OSHA:** | Not listed |
| **OTHER:** | ACGIH: Not listed |

## Section 12 – Ecological Information

**Ecotoxicological Information:**

| | |
|---|---|
| Bluegill sunfish, 96-hour LC50 | = 771 mg/L [FMC Study I92-1250] |
| Rainbow trout, 96-hour LC50 | = 163 mg/L [FMC Study I92-1251] |
| Daphnia, 48-hour LC50 | = 133 mg/L [FMC Study I92-1252] |
| Grass shrimp, 96-hour LC50 | = 519 mg/L [FMC Study I92-1253] |

**Chemical Fate Information:** Biodegradability does not apply to inorganic substances.

## Section 13 – Disposal Considerations

**Disposal:** Must be disposed of in a manner consistent with federal, state and local regulations. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14 – Transport Information

**USDOT, NON Bulk:** UN1505, Sodium Persulfate, Class 5.1 (Oxidizer), PGIII.

**IATA/ICAO:** UN1505, Sodium Persulfate, Class 5.1 (Oxidizer), PGIII.

**IMDG:** UN1505, Sodium Persulfate, Class 5.1 (Oxidizer), PGIII.

**Other Information:** Protect from physical damage. Do not store near acids, moisture or heat.

## Section 15 – Regulatory Information

**UNITED STATES**

**Sara Title III (Superfund Amendments and Reauthorization Act)**

- **Section 302 Extremely Hazardous Substances (40 cfr 355, appendix a):** Not applicable
- **Section 311 Hazard Categories (40 CFR 370):** Fire Hazard, Immediate (Acute) Health Hazard
- **Section 312 Threshold Planning Quantity (40 CFR 370):**
  The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None
- **Section 313 Reportable Ingredients (40 CFR 372):**
  There are no ingredients in this product, which are subject to Section 313 reporting requirements.

**CERCLA (Comprehensive Environmental Response Compensation and Liability Act)**

- **CERCLA Designation & Reportable Quantities (RQ) (40 CFR 302.4):**
  Unlisted, RQ = 100 lbs., Ignitability

**TSCA (Toxic Substance Control Act)**

- **TSCA Inventory Status (40 CFR 710):**
  All components are listed or exempt.

**Resource Conservation and Recovery Act (RCRA)**

- **RCRA Identification of Hazardous Waste (40 CFR 261):**
  Waste Number: D001

**Hazard and Risk Phrase Descriptions:**

EC Symbols: Xn (Harmful)
O (Oxidizer)

EC Risk Phrases: R8 (Contact with combustible material may cause fire)
R22 (Harmful if swallowed.)
R36/37/38 (Irritating to eyes, respiratory system and skin.)
R42/43 (May cause sensitization by inhalation or by skin contact.)

## Section 16 – Other Information

(Hazard Rating: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe; * = Chronic)

**HMIS III rating:**

Health: 1* Flammability: 1 Physical hazard: 0

**Abbreviations and acronyms:**

USDOT: United States Department of Transportation.
IMDG: International Maritime Code for Dangerous Goods.
IATA: International Air Transport Association.
CAS: Chemical Abstracts Service (Division of the American Chemical Society).
LC50: Lethal concentration, 50 percent.
LD50: Lethal dose, 50 percent.

**SDS prepared by:** Aquafin product safety department.

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**END OF SDS** (January 22, 2019)