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MSDS No. IM.2.1.1.A

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**Section 01 - Product Identification**

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IDENTITY: *As Used on Label and List:* **AQUAFIN-PM-3811**  
**Component – A (liquid accelerator)**AQUAFIN, INC.  
505 BLUE BALL RD. #160  
ELKTON, MD 2192124 hr Emergency Phone: Chem-Tel (800) 255-3924  
Information Phone No. (410) 392-2300

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**Section 02 - Composition/Information on Hazardous Ingredients**

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| Hazardous Components | CAS No.  | OSHA PEL | ACGIH TLV | Percent  |
|----------------------|----------|----------|-----------|----------|
| Triethanolamine      | 102-71-6 |          |           | 60 - 100 |
| Diethanolamine       | 111-42-2 |          |           | 13 – 30  |

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**Section 03 - Hazards Identification**

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

|              | HMIS <sup>®</sup> - Rating |
|--------------|----------------------------|
| HEALTH       | 1                          |
| FLAMMABILITY | 1                          |
| REACTIVITY   | 0                          |

**Caution:** Causes eye irritation, may cause skin irritation, may cause target organ damage, based on animal data.  
Do not add nitrites – may form suspected cancer causing nitrosamines**Effects of Overexposure:****Inhalation:** Irritation.  
**Ingestion:** This product has a low order of acute oral toxicity – small amounts accidentally swallowed related to normal handling are not likely to cause injury. Large amounts may cause injury.  
**Skin Contact:** Slight irritation.  
**Eye Contact:** Irritation.

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**Section 04 – First Aid Measures**

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**Inhalation:** Supply fresh air and consult a physician if breathing becomes difficult or symptoms occur.  
**Ingestion:** Wash out mouth with water and get medical attention. Only induce vomiting if directed by a physician. Never give anything by mouth to an unconscious person.  
**Skin Contact:** Flush skin with plenty of water immediately. Remove contaminated clothing and shoes. Seek medical attention if symptoms occur. Wash clothing and shoes before reuse.  
**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. For chemical burns obtain medical attention without delay.  
**Notes to physician:** Treatment should be directed by the symptoms and clinical condition of the patient. Following severe exposure medical follow-up should be monitored for at least 48 hours.

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## Section 05 – Fire Fighting Measures

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- Flash Point:** 188°C (370°F) closed cup
- Products of Combustion:** Decomposition products may include the following materials:  
carbon oxides, nitrogen oxides
- Extinguishing Media:** When fighting fires involving this material use an extinguishing agent suitable for the surrounding fire.
- Fire Fighting Procedures:** Caution: container may burst due to pressure increase if in a fire or heated. Evacuate all persons from proximity of the incident if there is a fire. Do not attempt action involving personal risk or without suitable training. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) with a full face-piece and full protective gear.

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## Section 06 - Accidental Release Measures

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- Measures for Cleaning/Collecting:** Stop leak if without risk. Evacuate surrounding areas and prevent unnecessary and unprotected personnel from entering the area. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation or wear appropriate respirator. Wear appropriate personal protective equipment. Move containers from spill area. Approach release from upwind. Absorb spill with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil. See Section 12, Ecological Protection

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## Section 07 – Handling and Storage

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- Handling:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands and face thoroughly after handling. Avoid breathing vapor or mist, do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. See Section 8, Exposure Controls / Personal Protection
- Storage:** Keep container closed when not in use. Do not store in direct sunlight. Keep in the original container, stored in a cool, dry, well ventilated place away from incompatible materials. Keep container tightly closed and sealed until ready for use. Unopened containers must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

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## Section 08 – Exposure Controls / Personal Protection

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| Product         | Exposure Limits                           |
|-----------------|---|
| Triethanolamine | ACGIH TWA: 5 mg/m <sup>3</sup> 8 hrs      |
| Diethanolamine  | ACGIH TWA: 2 mg/m <sup>3</sup> 8 hrs Skin |

- Engineering Controls:** Use adequate local exhaust ventilation to maintain airborne concentrations below the acceptable levels. If not possible, use suitable respiratory equipment.

|                                |   |
|--------------------------------|---|
| <b>Respiratory Protection:</b> | A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators. |
| <b>Skin Protection:</b>        | Use chemically resistant apron or other appropriate impervious clothing to avoid prolonged or repeated skin contact based on task being performed.  |
| <b>Hand Protection:</b>        | Chemical-resistant, impervious gloves should be worn whenever this material is handled. For each work-place a suitable glove type has to be selected. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.                                     |
| <b>Eye Protection:</b>         | Use safety glasses (ANSI Z87.1 or approved equivalent).   |

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## Section 09 – Physical and Chemical Properties

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|  |                            |
|--|----------------------------|
| <b>Physical state:</b>                 | Liquid                     |
| <b>Color:</b>                          | White                      |
| <b>Odor:</b>                           | Ammoniacal                 |
| <b>Odor threshold:</b>                 | Not available              |
| <b>Solubility in water:</b>            | Not available              |
| <b>pH-value:</b>                       | 11                         |
| <b>Boiling point:</b>                  | 305 °C (581 °F)            |
| <b>Melting point:</b>                  | 18 °C (65 °F)              |
| <b>Flash point:</b>                    | 188 °C (370 °F) closed cup |
| <b>Specific Gravity:</b>               | Not available              |
| <b>Viscosity, (kinematic) at 20°C:</b> | 5.27 cm <sup>2</sup> /s    |
| <b>Vapor density (air = 1):</b>        | 5.3                        |
| <b>Vapor pressure:</b>                 | 0.0013 kPa                 |
| <b>VOC content:</b>                    | 3%                         |
| <b>Odor threshold:</b>                 | not available              |
| <b>Further information:</b>            | none                       |

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## Section 10 – Stability and Reactivity

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|                                  |   |
|----------------------------------|---|
| <b>Stability:</b>                | This product is stable under normal storage conditions.                       |
| <b>Hazardous Decomposition:</b>  | May include carbon dioxides and nitrogen oxides.                              |
| <b>Hazardous Polymerization:</b> | None.   |
| <b>Incompatibilities:</b>        | oxidizing materials, organic materials, metals, acids, nitrites, and alkalis. |

## Section 11 – Toxicological Information

### Product Information:

#### Acute toxicity

| Name            | test        | Species | Result            |
|-----------------|-------------|---------|-------------------|
| Diethanolamine  | LD50 Dermal | Rabbit  | >5000 mg/kg       |
|                 | LD50 Oral   | Rat     | 700 to 2800 mg/kg |
| Triethanolamine | LD50 Dermal | Rabbit  | >5000 mg/kg       |
|                 | LD50 Oral   | Rat     | >5000 mg/kg       |

**Conclusion:** Triethanolamine can cause tumors in rodents. Research has shown that the mechanism of carcinogenicity is not relevant to humans.

**IARC Triethanolamine:** 3

**IARC Diethanolamine:** 3

#### Potential acute health effects

**Ingestion:** Slightly toxic if swallowed.  
**Inhalation:** No known significant effects or critical hazards.  
**Eyes:** Irritating to eyes.  
**Skin:** Slightly irritating to the skin.

#### Potential chronic health effects

**Target organs:** May cause damage to kidneys and contains materials which may cause damage to blood, liver, testes.  
**Carcinogenicity:** See above  
**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.

## Section 12 – Ecological Information

### Aquatic ecotoxicity

| Product/ingredient | Result                     | Species | Exposure (hrs) |
|--------------------|----------------------------|---------|----------------|
| - Triethanolamine  | Acute IC50 750 mg/L        | Algae   | 72             |
|                    | Acute LC50 11.8 mg/L       | Fish    | 96             |
| - Diethanolamine   | Acute EC50 110 to 187 mg/L | Daphnia | 48             |
|                    | Acute IC50 2.5 to 798 mg/L | Algae   | 72             |
|                    | Acute LC50 837 mg/L        | Fish    | 96             |
|                    | Acute LC50 1460 mg/L       | Fish    | 96             |
|                    | Acute LC50 1400 mg/L       | Fish    | 96             |

### Biodegradability

| Product/ingredient | Result                   |
|--------------------|--------------------------|
| Triethanolamine    | 60 % - Readily - 28 days |

| Product/ingredient | Aquatic half-life | Photolysis  | Biodegradability |
|--------------------|-------------------|-------------|------------------|
| Triethanolamine    | n/a               |             | Readily          |
| Diethanolamine     | n/a               | < 28 day(s) | Readily          |

### Bioaccumulative potential

| Product/ingredient | LogPow         | BCF  | Potential |
|--------------------|----------------|------|-----------|
| Triethanolamine    | -1.7           | 0.99 | low       |
| Diethanolamine     | -2.18 to -1.43 | 0.99 | low       |

**Environmental effects** : No known significant effects or critical hazards.

**Section 13 – Disposal Considerations**

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

**Section 14 – Transport Information**

**DOT Non-Bulk:** Not regulated  
**DOT Bulk:** UN3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diethanolamine); Class 9; PGIII; Reportable quantity 100lbs  
**IMO:** Not regulated  
**ICAO:** Not regulated

**Section 15 – Regulatory Information**

**TSCA Status:** Listed or exempt  
**HCS Classification:** Irritating materials, target organ effects

**SARA 313 Form R Reporting Requirements:** Diethanolamine (CAS No.: 111-42-2) 15% Concentration

**SARA 313 Notification:** Must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed..

**CERCLA:**

| Component      | Concentration | Section 304 CERCLA Hazardous Substance | CERCLA Reportable Quantity | Product Reportable Quantity |
|----------------|---------------|--|----------------------------|-----------------------------|
| Diethanolamine | 15%           | Listed                                 | 100                        | 667                         |

Release of more than any reportable quantity to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).

**Section 16 – Other Information**

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

**END OF MSDS**

(March 26, 2010)