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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name: McFarland Standard 0.5 to 10.0  
Catalog Number: TM50, TM51, TM52, TM53, TM54, TM55, TM56, TM57, TM58, TM59, TM60  
Product Use: For laboratory use only

Manufacturer's Name: Dalynn Biologicals Inc.  
Supplier's Name: Dalynn Biologicals Inc.  
Address: 3253 – 34 Avenue NE  
Calgary, AB, Canada  
T1Y 6X2

Telephone: 1-888-404-4045  
Fax: (403) 250-9010  
Chemical Emergency: 1-613-996-6666  
Phone Number Only

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**2. HAZARD IDENTIFICATION****Emergency Overview****GHS Classification**

Skin corrosion (Category 2)  
Serious eye irritation (Category 2A)

**GHS Label Elements, Including Precautionary Statements**

Pictogram



Signal word            Warning

Hazard statement(s)

H313            May be harmful in contact with skin.  
H320            Causes eye irritation.  
H335            May cause respiratory irritation.

Precautionary statement(s)

P233            Keep container tightly closed  
P261            Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264            Wash skin thoroughly after handling.  
P280            Wear protective gloves & clothing/ eye protection/ face protection.  
P310            Immediately call a poison center or doctor.  
P302+P352     If on skin: Wash with plenty of water.  
P305+P351+P338    If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

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### 3. COMPOSITION & INFORMATION ON INGREDIENTS

INGREDIENT	%	CAS-No.	EC-No.	Index-No.
Sulfuric acid	<1	7664-93-9	231-639-5	016-020-00-8
Barium chloride	0.1	7727-43-7	231-595-7	017-002-01-X
Water	99	7732-18-5	231-791-2	-

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move affected individual out of affected area.

#### If inhaled

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

#### In case of skin contact

Take off contaminated clothing. Wash affected area with soap and plenty of water. If feeling unwell, consult a physician.

#### In case of eye contact

Flush eyes with plenty of water for at least 15 minutes. If feeling unwell, consult a physician.

#### If swallowed

Do not induce vomiting. Rinse mouth with water if patient is conscious. If conscious, give a glass of water to dilute stomach contents. If feeling unwell, consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Very low flammability hazard as the main component is water.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions: carbon dioxides, hydrogen chloride gas.

#### Explosion data – sensitivity to mechanical impact

Not sensitive to mechanical impact

#### Explosion data – sensitivity to static discharge

Not sensitive to static discharge

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing in dust.

### Environmental precautions

Prevent further leakage or spillage if safe to do so.

### Methods and materials for containment and cleaning up

Wearing appropriate safety gear including chemical resistant gloves and dust mask or respirator. Soak up with paper towel and place in sealed container and hold for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use in area with adequate ventilation.

### Conditions for safe storage

Store at refrigerated conditions at 2 to 8°C away from direct light or sunlight.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Sulfuric acid	7664-93-9	TWA	0.2 mg/m <sup>3</sup>	Canada. British Columbia OEL
		TWAEV	0.2 mg/m <sup>3</sup>	Canada. Ontario OELs
		STEV	3 mg/m <sup>3</sup>	Canada. Ontario OELs
		STEL	3 mg/m <sup>3</sup>	Canada. Alberta. Occupational Health and Safety Code (table 2:OEL)
		TWA	1 mg/m <sup>3</sup>	Canada. Alberta. Occupational Health and Safety Code (table 2:OEL)
		TWA	1 mg/m <sup>3</sup>	Canada. Quebec. Regulation respecting occupational health and safety, schedule 1, Part 1
		STEL	3 mg/m <sup>3</sup>	Canada. Quebec. Regulation respecting occupational health and safety, schedule 1, Part 1
		TWA	0.2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

### Personal protective equipment

#### Respiratory protection

Use in area with adequate ventilation. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type ABEK (EN14387) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands after use.

#### Eye protection

Face shield and/or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Skin and body protection**

Wear appropriate clothing such as a lab coat that covers as much of the body as possible. Complete suit can also be worn if desired.

**Hygiene measures**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	Liquid
Color	Clear with precipitate

**Safety data**

pH	2.3 at 20°C (68°F)
Melting point/ freezing point	0°C (32°F)
Boiling point	100°C (212°F)
Flash point	No data available
Ignition temperature	No data available
Auto ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
Density	No data available
Water solubility	100% soluble
Partition coefficient/ n-octanol/water	No data available
Relative vapor density	No data available
Odour	No data available
Odour threshold	No data available
Evaporation rate	No data available

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**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No data available

**Chemical stability**

Stable if stored as recommended.

**Materials to avoid**

Strong oxidizing agents, strong bases, strong acids, sodium and potassium metals

**Hazardous decomposition products**

Other decomposition products – No data available

Hazardous decomposition products formed under fire conditions – Carbon oxides, hydrogen chloride gas

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**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Oral LD50**

Rat – 2,140 mg/kg

**Inhalation LC50**

No data available

**Other information on acute toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

**Reproductive toxicity**

No data available

**Teratogenicity**

No data available

**Specific target organ toxicity – single exposure (GHS)**

No data available

**Specific target organ toxicity – repeated exposure (GHS)**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

<b>Inhalation</b>	Maybe harmful if inhaled. Material is destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	May cause skin irritation depending on duration.
<b>Eyes</b>	Causes irritation or burns on contact.
<b>Ingestion</b>	Maybe harmful if swallowed. This product contains 99% water therefore no serious side effects are expected unless ingested in large quantities.

**Signs and Symptoms of Exposure**

No major effects are expected as this product contains 99% water. If symptoms do arise, symptoms may include burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, and pulmonary edema. Material is maybe destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

No data available

**Additional information**

RTECS: Not available

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**12. ECOLOGICAL INFORMATION****Toxicity**Sulphuric acid

Toxicity to daphnia and other aquatic invertebrates static test

EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae static test

ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

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### 13. DISPOSAL CONSIDERATIONS

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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### 14. TRANSPORT INFORMATION

**DOT (US)**

None

**IMDG**

None

**IATA**

None

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### 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by them.

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### 16. OTHER INFORMATION

**Further information**

Copyright 2017 Dalynn Biologicals Inc. The above information is believed to be correct but does not purport to be all inclusive and shall be only used as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Dalynn Biologicals Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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