

# MSDS Document

## Product Salt Water Magic Start-Up

### 1. Chemical Product and Company Identification

**Trade Name of this Product** Salt Water Magic Start-Up

**MSDS ID** NC-MS003

**Manufacturer**

Natural Chemistry, Inc.  
76 Progress Drive  
Stamford, CT 06902-3600

**Contact Name**

Tom Berry

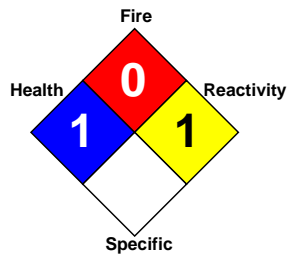
**Phone Number**

(800) 753-1233

**Emergency Phone**

(800) 753-1233

**Revision Date** 2/9/2005



<b>Health:</b>	1
<b>Fire:</b>	0
<b>Reactivity:</b>	0
<b>Specific</b>	

### 2. Composition and Information on Ingredients

<b>Ingredient</b>	<b>CAS Number</b>	<b>Weight %</b>	<b>ACGIH TLV</b>	<b>PEL</b>	<b>STEL</b>
Monosodium cyanurate monohydrate	2624-17-1	30-50 %	Not Established	Not Established	Not Established
Boric acid	10043-35-3	20-45 %	10 mg/m3	15 mg/m3	Not Established
Sodium tetraborate pentahydrate	12179-04-3	10-30 %	1 mg/m3	10 mg/m3	Not Established
Disodium salt of ethylenediaminetetraacetic acid dihydrate	000139-33-3	3-10 %	Not Established	Not Established	Not Established
Lanthanum Sulfate nonahydrate	10294-62-9	1-10 %	Not established	Not Established	Not established
Enzyme	Not Known	.01-.99 %	Not established	Not Established	Not Established

### 3. Hazard Identification

**POTENTIAL HEALTH EFFECTS:**

**Routes of exposure:**

Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern as this components in this mixture are poorly absorbed through intact skin.

**Inhalation:**

Occasional mild irritation effects to the nose and throat may occur from inhalation of Salt Water Magic Start-Up dust.

**Eye Contact:**

May cause mild irritation.

**Skin Contact:**

Prolonged exposure may cause skin irritation. Repeated exposure may cause skin burns. May cause more severe response if confined to skin or skin is abraded (scratched or cut). A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**Ingestion:**

Swallowing small quantities (one teaspoon) accidentally are not likely to cause effects harm to healthy adults. Swallowing larger amounts than that may cause gastrointestinal symptoms.

**Cancer:**

None of the ingredients in this mixture are known carcinogens.

**Reproductive/developmental:**

Animal ingestion studies in several species , at high doses, indicate that borates (from boric acid and sodium tetraborate pentahydrate) cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction.

EDTA and its sodium salts have been reported to cause births defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation. Exposures having no effect on the mother should have no effect on the fetus.

**Signs and symptoms of exposure:**

Symptoms of accidental over-exposure to Salt Water Magic Start-Up might include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling.

## 4. First Aid Information

**INHALATION:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**EYE CONTACT:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**SKIN CONTACT:**

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at

least 15 minutes. Get medical attention if irritation develops or persists. Wash clothing before re-use.

**INGESTION:**

Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger quantities are swallowed, do not induce vomiting. Give two glasses of water to drink and seek medical attention.

**NOTE TO PHYSICIAN:**

If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

Observation only is required for adult ingestion in the range of 8-16 grams of material. For ingestion of larger amounts, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analysis of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

## 5. Fire Fighting Measures

<b>Flash Point</b>	Not available
<b>FP Method</b>	Not available

**FIRE:**

Not considered to be a fire hazard.

**FIRE AND EXPLOSION HAZARDS:**

Negligible fire hazard.

**EXTINGUISHING MEDIA:**

Use extinguishing agents appropriate for surrounding fire.

**FIRE FIGHTING:**

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH-approved positive-pressure self-contained breathing apparatus.

**SPECIAL FIRE FIGHTING PROCEDURES:**

Use NIOSH approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Wear full protective clothing.

**SENSITIVITY TO STATIC DISCHARGE:**

Not sensitive.

**HAZARDOUS COMBUSTION PRODUCTS:**

Thermal decomposition products or combustion: cyanic acid, ammonia, oxides of carbon, oxides of nitrogen.

## 6. Accidental Release Measures

**GENERAL:**

This material is a water-soluble powder that may, at high concentrations, cause damage to

trees or vegetation by root absorption.

**OCCUPATIONAL RELEASE:**

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

Keep out of water supplies, storm drains and sewers.

## 7. Handling and Storage

**STORAGE:**

Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances.

Keep in a well closed container stored under cold to warm conditions 36° F to 104° F (2° C to 40° C). Protect against physical damage. Use good housekeeping practices to prevent accumulation of dust and follow sound cleaning techniques that will keep airborne particles at a low level. Do not store in aluminum, carbon steel, copper, copper alloys, zinc or nickel containers.

**HANDLING:**

Avoid contact especially when skin is cut or abraded. Wash thoroughly after handling. Use only with adequate ventilation. Avoid inhalation. Avoid contact with eyes, skin or clothing.

## 8. Exposure Controls and Personal Protection

**AIRBORNE EXPOSURE LIMITS:**

None established.

**VENTILATION:**

Good general ventilation should be sufficient for most conditions. Local exhaust ventilation is generally preferred and may be necessary for some operations to keep employee exposures as low as possible.

**PERSONAL RESPIRATORS:**

For conditions of use where exposure to dust is apparent and engineering controls are not feasible, a particulate respirator (NIOSH Type N95 or better filters) may be worn. For emergencies or instances where exposure levels are not known, use a full-face, positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**SKIN PROTECTION:**

Use rubber or plastic impervious gloves and body-covering clothing.

**EYE PROTECTION:**

Wear chemical resistant safety goggles if eye contact is likely. An emergency eye wash fountain may be provided.

**OCCUPATIONAL EXPOSURE LIMITS:**

The component sodium tetraborate pentahydrate is regulated by OSHA, Cal OSHA and

ACGIH. See Section 2 for TLV, PEL and STEL limits. All other components are not treated by OSHA, Cal OSHA and ACGIH as "Particulate Not Otherwise Classified" or "Nuisance Dust".

## 9. Physical and Chemical Properties

<b>Physical State</b>	Dry solid
<b>Specific Gravity</b>	1
<b>Color/Appearance</b>	White powder
<b>Odor</b>	None
<b>pH</b>	7.4-7.8
<b>Boiling/Cond. Point</b>	Decomposes
<b>Melting/Freezing Point</b>	No information
<b>Solubility</b>	Not known
<b>Evaporation Rate</b>	No information
<b>VOC %</b>	No information
<b>Percent Volatile</b>	No information
<b>Molecular Formula</b>	Mixture
<b>Viscosity</b>	No information
<b>Vapor Density</b>	No information
<b>Vapor Pressure</b>	No information

Physical and chemical properties listed above are general and approximate and are not intended as product specifications.

## 10. Stability and Reactivity

### STABILITY:

Stable at normal temperatures and pressure.

### CONDITIONS TO AVOID:

Avoid contact with incompatible materials.

### INCOMPATIBLE MATERIALS:

Acids, oxidizing materials

Avoid contact with aluminum, potassium, alkalis, carbonates and hydroxides.

### HAZARDOUS DECOMPOSITION:

Thermal decomposition products or combustion: cyanic acid, ammonia, oxides of carbon, oxides of nitrogen.

### HAZARDOUS DECOMPOSITION PRODUCTS:

Boric acid loses chemically combined water upon heating, forming metaboric acid (HBO<sub>2</sub>) at 212-221° F, then pyroboric acid (H<sub>2</sub>B<sub>4</sub>O<sub>7</sub>) at 285-320° F, and boric anhydride at higher temperatures.

### POLYMERIZATION:

Hazardous polymerization will not occur.

## 11. Toxicological Information

### TOXICITY DATA:

Sodium Cyanurate: 2144 mg/kg intravenous-cat LD50. Sodium cyanurate has been shown to

cause no injury to rabbit eyes when 0.1 mL of aqueous suspensions containing 0.8% to 8% were applied daily 5 days/wk for 3 months. Renal effects and deaths were observed in female and male rats fed high doses (8%) monosodium cyanurate for 20 wk in diet. Histological changes in kidney related to diuretic effect of cyanuric acid were noted. No effects were noted at 0.8%. Dogs fed high doses (8%) monosodium cyanurate for 2 years showed kidney fibrosis and death. Dogs fed 0.8% monosodium cyanurate in diet showed no changes after 6 months. Monosodium cyanurate was evaluated for gene mutation and was negative at all dose levels tested. Cyanuric acid: >10 gm/kg oral-rat LD50; 7.7 gm/kg oral-rat LD50; 20 mg/24 hour(s) eyes-rabbit slight irritation; 500 mg/24 hour(s) eyes-rabbit marked irritation; non-irritating to rabbit skin. This material is believed to be non-toxic by inhalation, dermal exposure and ingestion. This material may cause irritation of the eyes. Long-term feeding studies in rats and dogs did not produce any adverse effects. Based on animal studies, cyanuric acid did not affect reproduction success in rats. No teratogenic effects were noted in studies with rats or rabbits.

#### **TOXICOLOGICAL DATA:**

For Boric Acid:

Acute oral toxicity: Rat LD50: 3,500 to 4,100 mg/kg  
Acute dermal toxicity: Rabbit LD50 >2,000 mg/kg  
Acute inhalation toxicity: Rat LC50 >2,0 mg/L  
Eye irritation: Draize test in rabbits produced mild eye irritation.

For Sodium tetraborate pentahydrate:

Acute oral toxicity: Rat LD50: 3,200 to 3,400 mg/kg  
Acute dermal toxicity: Rabbit LD50 >2,000 mg/kg  
Acute inhalation toxicity: Rat LC50 >2,0 mg/L  
Eye irritation: Draize test in rabbits produced mild eye irritation.

## **12. Ecological Information**

#### **ECOTOXICITY DATA:**

##### **GENERAL:**

Boron is the element in boric acid and sodium tetraborate pentahydrate which is used by convention to report borate product ecological effects. It occurs naturally in sea-water at an average concentration of 5 mg boron/L and generally occurs in fresh water at concentrations up to 1 mg boron/L. In dilute aqueous solutions the predominant boron species is undissociated boric acid. To convert sodium tetraborate pentahydrate into equivalent boron content, multiply by 0.1484. To convert boric acid into equivalent boron content, multiply by 0.1748.

##### **FISH TOXICITY DATA:**

This material is believed to be non-toxic to aquatic life.

##### **FATE AND TRANSPORT:**

##### **BIODEGRADATION:**

Cyanuric acid biodegrades readily under a wide variety of natural conditions, and particularly well in systems of either low or zero dissolved-oxygen levels.

Boric acid and sodium tetraborate pentahydrate decompose in the environment to natural borate.

**PERSISTENCE:**

This material is believed not to persist in the environment. Cyanuric acid has an estimated Henry's Law Constant of  $1.36 \times 10^{-18}$  atm cu m/mol.

**OTHER ECOLOGICAL INFORMATION:**

Cyanuric acid is toxic to certain plants including barley and radishes.

**ENVIRONMENTAL TOXICITY:**

Boric Acid: The EC50/48-hour values for daphnia are over 100 mg/L. This material may be toxic to aquatic life.

### 13. Disposal Considerations

**DISPOSAL:**

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/provincial and local laws and regulations. Regulations may vary in different locations. Where characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

**DISPOSAL GUIDANCE:**

Small quantities of this product can usually be disposed of at landfill sites. No special treatment is required.

**RCRA (40 CFR 261):**

No components of this material mixture are listed under any sections of the Federal Resource and Recovery Act (RCRA).

### 14. Transportation Information

**US DOT:**

Not regulated.

**DOT HAZARD CLASS:**

Not DOT regulated

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

Not regulated.

### 15. Regulatory Information

**U.S. REGULATIONS:**

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):**

Not regulated.

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):**

Not regulated.

**SARA TITLE III SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**

ACUTE: No

CHRONIC: No  
FIRE: No  
REACTIVE: No  
SUDDEN RELEASE: No

**SARA TITLE III SECTION 313 (40 CFR 372.65):**  
Not regulated

**OSHA PROCESS SAFETY (29 CFR 1910.119):**  
Not regulated.

#### **STATE REGULATIONS**

**CALIFORNIA PROPOSITION 65:**  
Not regulated.

**HAZARDOUS SUBSTANCE LIST:**  
Not regulated.

**ENVIRONMENTAL HAZARDOUS SUBSTANCE LIST:**  
Not regulated.

#### **CANADIAN REGULATIONS:**

**CONTROLLED PRODUCTS REGULATIONS (CPR):**  
This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**WHMIS CLASSIFICATION:**  
Sodium tetraborate pentahydrate (CAS #12179-04-3) is classified as Class D - Division 2A under Canadian WHMIS guidelines.  
Boric Acid is classified as Class D - Division 2A under Canadian WHMIS guidelines.  
Sodium cyanurate is not considered a Controlled Product under Canadian WHMIS guidelines.  
Disodium EDTA crystals is classified as Class D - 2B under Canadian WHMIS guidelines.  
Lanthanum Sulfate is not considered a Controlled Product under Canadian WHMIS guidelines.

**U.S. INVENTORY (TSCA):**  
All the components of this substance are listed on or are exempt from the inventory.

**CANADA DOMESTIC SUBSTANCES LIST (DSL):**  
This product and/or all of its components are listed on the Canadian DSL.

## **16. Other Information**

### **Other Information**

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is based upon information Natural Chemistry, Inc. believes to be true, accurate and reliable and is supplied for informational purposes only. Natural Chemistry, Inc. disclaims any liability for damage which results from the use of the above information and nothing contained therein shall constitute a guarantee, warranty (including

fitness for a particular purpose) or representation by Natural Chemistry, Inc. with respect to the accuracy or completeness of the data, the product described or their use for any specific purpose even if that purpose is known to Natural Chemistry, Inc.. Factors pertaining to certain conditions of storage, handling, or use of this product may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. The final determination of the suitability of the information and the manner of use of the information or product is the sole responsibility of the user.

Physical chemical properties listed in Section 9 are general and approximate and are not intended as product specifications.