

**Product Name:** Chlorinating Granules  
**Date:** 2/22/2019

**SECTION 1 IDENTIFICATION**

**Supplier:** Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502

**Distributor:** Essentials  
5070 Wallace Drive  
Cumming, GA 30041  
(626) 305-1182

**U.S. Emergency Telephone:**

1-800-222-1222

**Product Name:**

**Chlorinating Granules**

**Synonyms:**

Sodium dichloroisocyanurate dihydrate; Dichlor dihydrate; 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt dihydrate; Troclosene sodium, dihydrate; SDCC dihydrate; NaDCC dihydrate  
Sodium Dichloro-S-Triazinetrione Dihydrate

**Chemical Name:**

**Chemical Formula:**

$C_3N_3O_3Cl_2Na \cdot 2H_2O$

**CAS Number:**

51580-86-0

**Product Use:**

Disinfects spas and pools.

**SECTION 2 HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**DANGER - CORROSIVE**



**Hazard Statement(s)**

H302: Harmful if swallowed  
H312: Harmful in contact with skin  
H318: Causes serious eye damage  
H330: Fatal if inhaled  
H335: May cause respiratory irritation  
H400: Very toxic to aquatic life

**Precautionary Statement(s)**

P221: Take any precaution to avoid mixing with other chemicals  
P260: Do not breathe dust, vapours or spray mist.  
P262: Do not get in eyes, on skin, or on clothing.  
P264: Wash thoroughly with soap and water after handling.  
P280: Wear protective gloves, protective clothing, eye protection and face protection.  
P273: Avoid release to the environment  
P321: Specific treatment (see First Aid Measures on this label).  
P362+364: Take off contaminated clothing and wash it before reuse.  
P501: Dispose of contents/container in accordance with national and international regulations

**POTENTIAL HEALTH EFFECTS**

**Eye:** This material is corrosive to the eye. Direct contact may cause severe irritation, pain and burns, possibly severe, and permanent damage including blindness. The degree of injury depends on the concentration and duration of contact.

**Skin:** This material is moderately irritating to the skin. Direct contact with wet material or moist skin may cause severe irritation, pain, and possibly burns. Dry material is less irritating than wet material. This material is not a skin sensitizer based on studies with guinea pigs.

## SECTION 2 **HAZARDS IDENTIFICATION - CONTINUED**

**Inhalation:** This material in the form as sold is not expected to produce respiratory effects. Particles of respirable sizes are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. If significant or prolonged exposure occurs, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptom may include tightness in the chest dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe cases may be fatal.

**Ingestion:** Not a likely route of exposure. Harmful if swallowed. Ingestion may cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

**Chronic Exposure/Carcinogenicity:** Based on animal studies, exposure to concentrations of monosodium cyanurate at the solubility limit may cause cardiovascular, kidney and urinary bladder effects.

**Aggravation of Pre-Existing Conditions:** Eye disorders, respiratory disorders, skin disorders and allergies

## SECTION 3 **COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Component</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Dichloro-S-Triazinetrione Dihydrate	51580-86-0	99%

## SECTION 4 **FIRST-AID MEASURES**

**Eye Contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin Contact:** Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention immediately.

**Inhalation:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**Ingestion:** Call poison control center, or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

## SECTION 5 **FIRE FIGHTING MEASURES**

**Note To Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

**Suitable Extinguishing Media:** Water

**Extinguishing Media Not To Be Used:** Do not use dry chemical extinguisher containing ammonia compounds.

**Fire Fighting Procedure:** Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode. On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished.

**Unusual Fire and Explosion Hazards:** When heated to decomposition, may release poisonous and corrosive fumes of Nitrogen trichloride, chlorine and CO.

## SECTION 6 **ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** For small spills in a well-ventilated areas, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air purifying respirator equipped with chlorine cartridges. Chemical goggles should be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls, chemical resistant gloves, chemical resistant footwear; and chemical resistant headgear for overhead exposure. For clean-up of large spills, or small dry spills in confined areas, wear full-face respirator with chlorine cartridges or a positive pressure supplied air respirator. Additionally, body protection should be impervious clothing covering entire body to prevent personal contact with material. **CAUTION** - Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

**Methods For Cleaning Up:** Hazardous concentrations in air may be found in local spill area and immediately downwind. If spill material is still dry, do not put water directly on this product as a gas evolution may occur. **Soil** - Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container. **Water** - This material is heavier than and soluble in water. Stop flow of material into water as soon as possible. Begin monitoring for available chlorine and pH immediately. **In Air** - Vapors may be suppressed by the use of water fog.

## SECTION 7 **HANDLING AND STORAGE**

**Handling:** Do not take internally.  
Avoid contact with skin, eyes, and clothing.  
Upon contact with skin or eyes, wash off with water.

**Storage:** Store in a dry, cool, well-ventilated area away from incompatible materials (see "materials to avoid"). Do not store at temperatures above 60°C/140°F.

SECTION 8 **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

COMPONENTS	ACGIH-TLV Data	OSHA (PEL) Data
SODIUM DICHLOORISOCYANURATE DIHYDRATE	Not Determined	Not Determined

**Ventilation Requirements:** Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs. Otherwise ensure good general ventilation.

**Personal Protective Equipment:**

**Respiratory Protection:** A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. When dusty conditions are encountered, wear a NIOSH/OSHA full-face respirator with chlorine cartridges for protection against chlorine gas and dust/mist pre-filter.

**Hand Protection:** Chemical resistant gloves

**Eye Protection:** Use chemical safety glasses to avoid eye contact. Where industrial use occurs, chemical goggles may be required.

**Skin and Body Protection:** Impervious body covering clothes, boots and neoprene apron.

**Hygiene Measures:** Safety shower and eye bath should be provided. Do not eat, drink or smoke until after-work showering and changing clothes.

SECTION 9 **PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White granules
<b>Odor:</b>	Mild chlorine-like
<b>Boiling Point/Range:</b>	Not Applicable
<b>Melting Point/Range:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Auto-Ignition Temperature:</b>	Not self-ignitable
<b>Vapour Pressure:</b>	Not applicable under standard Conditions
<b>Evaporation Rate (ether=1):</b>	Not applicable under standard conditions
<b>Vapor Density:</b>	Not applicable under standard
<b>Viscosity:</b>	Not applicable
<b>Specific Gravity:</b>	2.0
<b>pH Factor:</b>	5-7
<b>Solubility:</b>	26.25g/100g (26°C)
<b>Density:</b>	Tap density = 0.974 g/mL Pour density = 1.083 g/mL kg/L
<b>Decomposition Temperature:</b>	Begins to lose 1 mole water at approx. 50°C; second mole water at 95°C; Decomposes at 240-250°C.

Section 10 **STABILITY AND REACTIVITY**

**Stability:** Stable under normal conditions. Do not package in paper or cardboard. Begins to lose one mole of water at approximately 50°C.

**Materials To Avoid:** Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.

**Conditions To Avoid:** Heating above decomposition temperature.

**Hazardous Decomposition Products:** Nitrogen trichloride, chlorine, carbon monoxide

**Hazardous Polymerization:** Will not occur.

**Summary of Reactivity:** Organic Peroxide: No  
Pyroforic: No  
Water Reactive: No

SECTION 11 **TOXICOLOGICAL INFORMATION**

**Acute Toxicity:**

Rat oral LD50	1823 mg/kg
Rat dermal LD50	>2000 mg/kg
Eye irritation (rabbit)	Severe irritant
Dermal irritation (rabbit)	Severe irritant
Dermal sensitization:	Not a sensitizer

**Immediately Dangerous To Life or Health (IDLH):** No level has been established for the components or the product itself.

**Chronic Toxicity:** Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.

**Mutagenicity:** Not mutagenic in five Salmonella strains with or without metabolic activation.

**Carcinogenicity:** Not classified by IARC, OSHA, EPA. Not included in NTP 11th Report on Carcinogens

**Reproductive Toxicity:** Sodium dichloroisocyanuric acid when given orally to pregnant mice from day 6 to day 15 of gestation, did not induce any significant teratogenic effects.

SECTION 12 **ECOLOGICAL INFORMATION**

**Aquatic toxicity**

- 96 Hour-LC50, Fish	0.22 mg/l (rainbow trout) 0.28 mg/l (bluegill sunfish)
- 48 Hour-LC50, Daphnia magna	0.2 mg/l

**Avian toxicity:**

- Oral LD50, Bobwhite quail	730 mg/kg
- Oral LD50, Mallard duck	3300 mg/kg
- Dietary LC50, Mallard duck	>10,000 ppm
- Dietary LC50, Bobwhite quail	>10,000 ppm

SECTION 13 **DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Care must be taken to prevent environmental contamination from the use of this material. Observe all federal, state and local environmental regulations when disposing of this material.

SECTION 14 **TRANSPORTATION INFORMATION**

Non-Bulk Packaging (less than 400kg): Not Regulated under DOT unless transported by Vessel

**DOT: UN Number:** NOT REGULATED  
**UN Proper Shipping Name:** NOT REGULATED  
**Transport Hazard Class:** NOT REGULATED  
**Packing Group:** NOT REGULATED

Bulk Packaging (more than 400kg) or Shipment by Vessel: Regulated

**DOT: UN Number:** 3077  
**UN Proper Shipping Name:** Environmentally hazardous substances, solid, n.o.s. (Sodium dichloro-s-triazinetriene dihydrate)  
**Transport Hazard Class:** 9  
**Packing Group:** III

**IMDG: UN Number:** 3077  
**UN Proper Shipping Name:** Environmentally hazardous substances, solid, n.o.s. (Sodium dichloro-s-triazinetriene dihydrate)  
**Transport Hazard Class:** 9  
**Packing Group:** III  
**EmS Number 1:** F-A  
**EmS Number 2:** S-F

**IATA: UN Number:** 3077  
**UN Proper Shipping Name:** Environmentally hazardous substances, solid, n.o.s. (Sodium dichloro-s-triazinetriene dihydrate)  
**Transport Hazard Class:** 9  
**Packing Group:** III

SECTION 15 **REGULATORY INFORMATION**

**USA**

All the components of this substance are listed on or are exempt from the inventory.

- **SARA (311, 312):** This product is categorized as an immediate health hazard, and fire and reactivity physical hazard

- **Massachusetts Right-to-Know Hazardous Substances** - Listed

- **Pennsylvania Right-to-Know Hazardous Substances** – Listed

- **California Proposition 65** – None of the ingredients is listed



SAFETY DATA SHEET  
Chlorinating Granules - 0030

- **Waste Classifications:** If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

- **Workplace Classification:** This product is considered hazardous under the OSHA Hazard.

SECTION 16

***OTHER INFORMATION***

No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Date: 2/22/2019  
Phoenix Products Company

**Product Name:** Shock Oxidizer  
**Date:** 2/26/19

SECTION 1 **IDENTIFICATION**

**Supplier:** Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502

**Distributor:** Essentials  
5070 Wallace Drive  
Cumming, GA 30041  
(626) 305-1182

**U.S. Emergency Telephone:** 1-800-222-1222  
**Product Name:** **Shock Oxidizer**  
**Synonyms:** Potassium Peroxymonosulfate; Potassium Hydrogen Sulfate; Potassium Monopersulfate Sulfate; Pentapotassium bis(peroxymonosulfate)bis(sulfate); Potassium Peroxysulfate  
**Chemical Name:** Potassium Monopersulfate  
**Chemical Formula:**  $\text{HKO}_5\text{S} \cdot 0.5\text{HKO}_4\text{S} \cdot 0.5\text{K}_2\text{O}_4\text{S}$   
**CAS Number:** 70693-62-8  
**Product Use:** Non-Chlorine Water Shock

SECTION 2 **HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**Danger**



**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Oxidizing solids (Category 3)  
Skin corrosion (Category 1A)  
Serious eye damage (Category 1)  
Respiratory sensitization (Category 1)  
Skin sensitization (Category 1)  
Specific target organ toxicity - single exposure (Category 3), Respiratory system

**Hazard Statement(s)**

H272: May intensify fire; oxidizer.  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H318: Causes serious eye damage.  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335: May cause respiratory irritation.

**Precautionary statement(s)**

P210: Keep away from heat.  
P220: Keep/Store away from clothing/combustible materials.  
P221: Take any precaution to avoid mixing with combustibles.  
P260: Do not breathe dust or mist.  
P264: Wash skin thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.



**SECTION 2      HAZARDS IDENTIFICATION - Continued**

P285: In case of inadequate ventilation wear respiratory protection.  
P321: Specific treatment (see First Aid Measures on this label).  
P363: Wash contaminated clothing before reuse.  
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.  
P501: Dispose of contents/ container to an approved waste disposal plant.

**SECTION 3      COMPOSITION, INFORMATION ON INGREDIENTS**

<b>Component</b>	<b>CAS Number</b>	<b>Percent</b>
Potassium Monopersulfate	70693-62-8	32.18%
Sodium Carbonate	497-19-8	30.00%
Potassium Sulfate	7778-80-5	20.30%
Potassium Bisulfate	7646-93-7	16.10%
Magnesium Carbonate	546-93-0	1.42%

**SECTION 4      FIRST-AID MEASURES**

**General Advice:** Consult a physician. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

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

**Skin Contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**SECTION 5      FIRE FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides, Sulphur oxides, Potassium oxides, Magnesium oxide.

**Hazardous Combustion Products:** Grinding or intensive mixing may cause decomposition with liberation of heat and oxygen; ignition of oxidizable material if present may occur.

**Advice for Firefighters:** Wear self contained breathing apparatus for firefighting if necessary.

**Further Information:** Use water spray to cool unopened containers. Contact with combustible materials may cause fire. Improper storage of large masses of "oxone" can trap heat and lead to ignition of combustibles (see "SECTION 7: **HANDLING AND STORAGE**").

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental Precautions:** Do not let product enter drains.

**Methods and materials for containment and cleaning up:** Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## SECTION 7 HANDLING AND STORAGE

**Precautions for Safe Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition.

**Special Handling Requirements:** Do not inhale. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Wash clothing after use.

**Conditions for Safe Storage:** Keep container tightly closed in a dry and well-ventilated place away from heat sources.

**Incompatible Materials:** The mixture of this product with compounds containing halides or active halogens can cause release of the respective halogen if moisture is present. For example, mixture with chloride can cause release of chlorine gas; mixture with cyanides can cause release of hydrogen cyanide gas; and heavy metal salts such as those of cobalt, nickel, copper, or manganese cause the evolution of oxygen.

**Specific End Use(s):** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values.

### Exposure Controls

**Appropriate Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued

**Personal Protective Equipment:**

**Eye/Face Protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin 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.

**Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of Environmental Exposure:** Do not let product enter drains.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	White Granular
<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	2 at 30 g/l at 77°C (171°F)
<b>Melting Point/Freezing Point:</b>	Not Available
<b>Initial Boiling Point and Boiling Range:</b>	@ 760 mm Hg Decomposes
<b>Flash Point:</b>	Not Available
<b>Evaporation Rate:</b>	Not Available
<b>Flammability (solid, gas):</b>	Not Available
<b>Upper/Lower Flammability or Explosive Limits:</b>	Not Available
<b>Vapor Pressure:</b>	Not Available
<b>Vapor Density:</b>	Not Available
<b>Relative Density:</b>	1.100 - 1.400 g/cm <sup>3</sup>
<b>Water Solubility:</b>	25.6 wt% @ 20°C (68°F)
<b>Partition Coefficient (n-octanol/water):</b>	Not Available
<b>Auto-ignition Temperature:</b>	Not Available
<b>Decomposition Temperature:</b>	kJ/kg 251 and Btu/lb 108
<b>Viscosity:</b>	Not Available
<b>Explosive Properties:</b>	Not Available
<b>Oxidizing Properties:</b>	The substance or mixture is classified as oxidizing with the category 3.

**SECTION 10 STABILITY AND REACTIVITY**

**Reactivity:** Not Available

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Not Available

**Conditions to Avoid:** Excess heat.

**Incompatible Materials:** Strong bases, Acids, Bases, Powdered metals, Strong oxidizing agents, Organic materials, Alcohols, acids, phosphorous, Halogens, Anhydrides, Phosphorus, Strong reducing agents

**Hazardous Decomposition Products:** Decomposes when heated or dampened, releasing oxygen and heat of decomposition.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Oral LD50 (rat):** 2,000 mg/kg

**Dermal LD50 (rabbit):** > 11,000 mg/kg

**Inhalation 4-hr LC50 (rat):** >5 mg/L

**Skin Irritation:** Severe skin irritant.

**Eye Irritation:** Severe eye irritant.

**Skin Sensitization:** Not a skin sensitizer in animals.

**Germ Cell Mutagenicity:** Not 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 a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity:** Not Available

**Specific Target Organ Toxicity - Single Exposure:** Not Available

**Specific Target Organ Toxicity - Repeated Exposure:** Not Available

**Aspiration Hazard:** Not Available

**SECTION 12 ECOLOGICAL INFORMATION**

**Aquatic Toxicity:** 96 hour LC50 – rainbow trout: 53 mg/L  
48 hour EC50 – daphnia magna: 3.5 mg/L

**Ecotoxicity:** Not Available.

**Mobility in Soil:** Not Available.

**Products of Biodegradation:** Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Results of PBT and vPvB Assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

SECTION 13 **DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

**Product:** Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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.

SECTION 14 **TRANSPORTATION DATA**

<b>DOT:</b>	<b>UN Number:</b>	NOT REGULATED
	<b>UN Proper Shipping Name:</b>	NOT REGULATED
	<b>Transport Hazard Class:</b>	NOT REGULATED
	<b>Packing Group:</b>	NOT REGULATED

SECTION 15 **REGULATORY INFORMATION**

**California Proposition 65** – None of the ingredients are listed

SECTION 16 **ADDITIONAL INFORMATION**

HMIS: Health - 3; Flammability - 0; Physical Hazard - 1

Representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Date: 2/26/19  
Phoenix Products Company

**Product Name:** Metal & Stain Control

**Date:** 2/26/2019

**SECTION 1 IDENTIFICATION**

**Supplier:** Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502

**Distributor:** Essentials  
5070 Wallace Drive  
Cumming, GA 30041  
(626) 305-1182

**U.S. Emergency Telephone:** 1-800-222-1222

**Product Name:** **Metal & Stain Control**

**Synonyms:** Etidronic Acid; 1-Hydroxyethylidene-1,1-diphosphonic acid;  
HEDP

**Chemical Name:** (1-Hydroxyethylidene)diphosphonic acid

**Chemical Formula:** C<sub>2</sub>H<sub>8</sub>O<sub>7</sub>P<sub>2</sub>

**CAS Number:** 2809-21-4

**Product Use:** Prevents and removes mineral stains in pools and spas.

**SECTION 2 HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**Danger**



**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Corrosive to metals (Category 1)

Serious eye damage (Category 1)

**OSHA Hazards:** Irritant

**Target Organs:** Bone, Kidney

**Hazard Statement(s)**

H290: May be corrosive to metals

H318: Causes serious eye damage

**Precautionary Statement(s)**

P280: Wear protective gloves/eye protection/face protection.

P234: Keep only in original container.

P321: Specific treatment (see First Aid Measures on this label).

P310: Immediately call a POISON CENTER or doctor/physician

P390: Absorb spillage to prevent material damage.

P406: Store in corrosive resistant stainless steel container with a resistant inner liner.

HMIS Classification	
Health Hazard	2
Flammability	0
Physical Hazards	0

SECTION 2 **HAZARDS IDENTIFICATION - Continued**

NFPA Rating	
Health Hazard	2
Fire	0
Reactivity Hazard	0

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

SECTION 3 **COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Component</u>	<u>CAS Number</u>	<u>Percent</u>
(1-Hydroxyethylidene)diphosphonic acid	2809-21-4	5%-25%

SECTION 4 **FIRST-AID MEASURES**

**General Advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

**Skin Contact:** Wash off with soap and plenty of water. Consult a physician.

**Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5 **FIRE FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides, Oxides of phosphorus.

**Advice for Firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6 **ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION 7	<b>HANDLING AND STORAGE</b>
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**Precautions for Safe Handling:** Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store at room temperature.

SECTION 8	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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#### Control Parameters

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values.

#### Exposure Controls

**Appropriate Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal Protective Equipment

**Eye/Face Protection:** Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin 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.

**Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of Environmental Exposure:** Do not let product enter drains.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.



SECTION 9 **PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Colorless to pale yellow liquid.
<b>Odor:</b>	Mild. Vinegar like.
<b>Odor Threshold:</b>	Not Available
<b>pH (1% solution):</b>	<2.0
<b>Melting Point</b>	198-199°C
<b>Boiling Point:</b>	578.8°C at 760 mmHg
<b>Flash Point:</b>	303.8°C
<b>Stability:</b>	Stable under ordinary conditions.
<b>Evaporation Rate:</b>	Not Available
<b>Flammability (solid, gas):</b>	Not Available
<b>Upper/Lower Flammability or Explosive Limits:</b>	Not Available
<b>Vapor Pressure (mm Hg):</b>	8.34E-16mmHg at 25°C
<b>Density @ 25°C:</b>	1.45 g/mL
<b>Specific Gravity:</b>	1.43 – 1.46
<b>Solubility in Water:</b>	Completely miscible with water in all proportions.
<b>Partition Coefficient (n-octanol/water):</b>	log Pow: -3,49
<b>Auto-ignition Temperature:</b>	Not Available
<b>Decomposition Temperature:</b>	Not Available
<b>Viscosity:</b>	Not Available
<b>Explosive Properties:</b>	Not Available
<b>Oxidizing Properties:</b>	Not Available
<b>Molecular Weight:</b>	201.9987

SECTION 10 **STABILITY AND REACTIVITY**

**Reactivity:** Not Available.

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Corrosive in contact with metals.

**Conditions to Avoid:** Not Available

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Hazardous decomposition products formed under fire conditions. – Carbon oxides, Oxides of phosphorus.

SECTION 11 **TOXICOLOGICAL INFORMATION**

**Acute Toxicity:** LD50 Oral – rat – 2610 mg/kg  
LD50 Dermal – rabbit – 8630 mg/kg  
Inhalation: Not Available

**Skin Corrosion/Irritation:** Skin – rabbit – no skin irritation – Draize Test

**Serious Eye Damage/Eye Irritation:** Eyes – rabbit – Severe eye irritation – OECD Test Guideline 405

**Respiratory or Skin Sensitization:** Not Available

**Germ Cell Mutagenicity:** Not Available

SECTION 11 **TOXICOLOGICAL INFORMATION - Continued**

**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 a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity:** Not Available

**Specific target organ toxicity - single exposure:** Not Available

**Specific target organ toxicity - repeated exposure:** Not Available

**Aspiration Hazard:** Not Available

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion:** May be harmful if swallowed.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12 **ECOLOGICAL INFORMATION**

**Toxicity**

-Toxicity to fish: mortality – *Salmo gairdneri* – 217 mg/l – 96h

-Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 – *Daphnia magna* (water flea) – 572 mg/l – 48h

-Toxicity to Algae: Growth inhibition – SELENASTRUM – 42 mg/l – 14 d

**Persistence and Degradability:** Not Available

**Bioaccumulative Potential:** Not Available

**Mobility in Soil:** Not Available

**Results of PBT and vPvB Assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other Adverse Effects:** And environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13 **DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

**Product:** Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated Packaging:** Dispose of as unused product.

SECTION 14 **TRANSPORTATION DATA**

**DOT:**     **UN Number:**                   ORM-D  
             **UN Proper Shipping Name:**   ORM-D  
             **Transport Hazard Class:**       ORM-D  
             **Packing Group:**               ORM-D

*Consumer commodity* (ORM-D) means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use. Valid until December 31, 2020.



**TDG:**     **UN Number:**                   3265  
             **UN Proper Shipping Name:**   Corrosive liquid, acidic, organic, n.o.s.  
   (1 Hydroxyethylidene)diphosphonic acid  
             **Transport Hazard Class:**       8  
             **Packing Group:**               III  
             **Marine Pollutant:**           No

**MEX:**     **UN Number:**                   3265  
             **UN Proper Shipping Name:**   Corrosive liquid, acidic, organic, n.o.s.  
   (1 Hydroxyethylidene)diphosphonic acid  
             **Transport Hazard Class:**       8  
             **Packing Group:**               III  
             **Marine Pollutant:**           No

**IMDG:**   **UN Number:**                   3265  
             **UN Proper Shipping Name:**   Corrosive liquid, acidic, organic, n.o.s.  
   (1 Hydroxyethylidene)diphosphonic acid  
             **Transport Hazard Class:**       8  
             **Packing Group:**               III  
             **EMS-No:**                       F-A, S-B  
             **Marine Pollutant:**           No

**IATA:**    **UN Number:**                   3265  
             **UN Proper Shipping Name:**   Corrosive liquid, acidic, organic, n.o.s.  
   (1 Hydroxyethylidene)diphosphonic acid  
             **Transport Hazard Class:**       8  
             **Packing Group:**               III



SAFETY DATA SHEET  
Metal & Stain Control- 0251

SECTION 15 **REGULATORY INFORMATION**

**OSHA Hazards:** Irritant

**DSL Status:** All components of this product are on the Canadian DSL list.

**SARA 302 Components:** SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** Acute Health Hazard

**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

<b>Pennsylvania Right To Know Components:</b>	CAS-No.	Revision Date
Etidronic acid	2809-21-4	

<b>New Jersey Right To Know Components:</b>	CAS-No.	Revision Date
Etidronic acid	2809-21-4	

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 **ADDITIONAL INFORMATION**

HMIS Classification	
Health Hazard	2
Flammability	0
Physical Hazards	0

NFPA Rating	
Health Hazard	2
Fire	0
Reactivity Hazard	0

No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Date: 2/26/2019  
Phoenix Products Company



SAFETY DATA SHEET  
**pH & Alkalinity Up** - 0160

**Product Name:** pH & Alkalinity Up  
**Date:** 2/26/2019

SECTION 1 **IDENTIFICATION**

**Supplier:** Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502

**Distributor:** Essentials  
5070 Wallace Drive  
Cumming, GA 30041  
(626) 305-1182

**U.S. Emergency Telephone:** 1-800-222-1222

**Product Name:** **pH & Alkalinity Up**

**Synonyms:** Baking Soda, Sodium Acid Carbonate, Sodium Hydrogen Carbonate, Bicarbonate of Soda

**Chemical Name:** Sodium Bicarbonate

**Chemical Formula:**  $\text{NaHCO}_3$

**CAS Number:** 144-55-8

**Product Use:** Raises total alkalinity level safely in pool water.

SECTION 2 **HAZARDS IDENTIFICATION**

**Emergency Overview**

**OSHA Regulatory Status:** This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122). Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

**Potential Health Effects**

**Routes of Exposure:** Ingestion. Eye contact.

**Eyes:** Dust or powder may irritate eye tissue. If irritation should occur, it is expected to be transient.

**Skin:** Health injuries are not known or expected under normal use.

**Inhalation:** Health injuries are not known or expected under normal use.

**Ingestion:** Expected to be a low ingestion hazard. May cause temporary irritation of the throat, stomach, and gastrointestinal tract.

**Target Organs:** Eyes.

**Chronic Effects:** None known.

**Potential Environmental Effects:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 3 **COMPOSITION, INFORMATION ON INGREDIENTS**

<b>Component</b>	<b>CAS Number</b>	<b>Percent</b>
Sodium Bicarbonate	144-55-8	100%

SECTION 4 **FIRST-AID MEASURES**

**Eye Contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if irritation develops or persists.

**Skin Contact:** Wash off with soap and water. Get medical attention if irritation develops or persists.

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Ingestion:** Seek medical advice. If ingestion of a large amount does occur, call a poison control center immediately.

**Notes To Physician:** Treat symptomatically

SECTION 5 **FIRE FIGHTING MEASURES**

**Flammable Properties:** This product is not flammable.

**Extinguishing Media**

**Suitable Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media:** None known.

**Protection of Firefighters**

**Protective Equipment and Precautions For Firefighters:** Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**Special Protective Equipment For Firefighters:** 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**

**Personal Precautions:** Keep unnecessary personnel away. Ventilate the area. Wear appropriate protective equipment and clothing during clean-up.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so.

**Methods For Containment:** If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.

**Methods For Cleaning Up:** Avoid dust formation.

**Small Spills:** Sweep up or vacuum up spillage and collect in suitable container for disposal.

**Large Spills:** Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

\*Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Clean up in accordance with all applicable regulations.

SECTION 7	<b>HANDLING AND STORAGE</b>
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**Handling:** Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

**Storage:** Keep containers tightly closed.

SECTION 8	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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**Exposure Guidelines:** No exposure standards allocated.

**Engineering Controls:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Equipment:**

**Eye/Face Protection:** Use tight fitting goggles if dust is generated.

**Skin Protection:** Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Respiratory Protection:** Wear respirator if there is dust formation.

**General Hygiene Considerations:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Crystalline
<b>Form:</b>	Powder
<b>Color:</b>	White
<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	Not Available
<b>Solubility:</b>	7.8g/100g water @ 18°C (64°F)
<b>Density:</b>	2.2
<b>pH:</b>	8.3 (0.1 molar @ 25°C (77°F)
<b>% Volatiles by volume @ 21°C (70°F):</b>	0
<b>Boiling Point:</b>	Not Applicable
<b>Melting Point:</b>	122°F (50°C)
<b>Flash Point:</b>	Not Available
<b>Flammability Limits in Air, Upper, % By Volume:</b>	Not Available
<b>Flammability Limits in Air, Lower, % By Volume:</b>	Not Available
<b>Vapor Density (Air=1):</b>	Not Available
<b>Vapor Pressure (mm Hg):</b>	Not Available
<b>Evaporation Rate (BuAc=1):</b>	Not Available
<b>Specific Gravity:</b>	2.159
<b>Relative Density:</b>	Not Available
<b>Partition Coefficient (n-octanol/water):</b>	Not Available
<b>Auto-ignition Temperature:</b>	Not Available
<b>Molecular Weight:</b>	84.01 g/mol

SECTION 10 **STABILITY AND REACTIVITY**

**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:** Gaseous carbon dioxide.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate or a sodium-potassium alloy.

**Conditions to Avoid:** Heat, moisture, incompatibles.

SECTION 11 **TOXICOLOGICAL INFORMATION**

**Sensitization:** Not a skin sensitizer.

**Acute Effects:** May be harmful if swallowed.

**Local Effects:** May cause eye irritation.

**Chronic Effects:** None known.

**Carcinogenicity:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Skin Corrosion/Irritation:** Not applicable.

**Epidemiology:** No epidemiological data is available for this product.

**Mutagenicity:** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Reproductive Effects:** Contains no ingredient listed as toxic to reproduction

SECTION 12 **ECOLOGICAL INFORMATION**

**Ecotoxicity:** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Environmental Effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and Degradability:** No data is available on the degradability of this product.

**Partition Coefficient (n-octanol/water):** Not available

SECTION 13 **DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.

**Contaminated Packaging:** Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.



SECTION 14	<b>TRANSPORTATION DATA</b>
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**DOT:** Not Regulated  
**TDG:** Not Regulated  
**MEX:** Not Regulated  
**IMDG:** Not Regulated  
**IATA:** Not Regulated

SECTION 15	<b>REGULATORY INFORMATION</b>
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**US Federal Regulations:** This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

**CERCLA/SARA Hazardous Substances:** Not applicable.

**CERCLA (Superfund) Reportable Quantity:** None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

Hazard categories Immediate Hazard - No  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard – No

**Section 311 Hazardous Chemical:** No

**Food and Drug Administration (FDA):**

Total food additive  
 Direct food additive  
 GRAS food additive

**Inventory Status**

Country(s) or Region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**California Proposition 65 –** None of the ingredients are listed

SECTION 15 **REGULATORY INFORMATION - Continued**

**Saf-T-Data:**

Health: 1 - Slight

Flammability: 0 - None

Reactivity: 1 - Slight

Contact: 1 - Slight

Lab Protective Equip: C - GOGGLES; LAB COAT; PROPER GLOVES

Storage Color Code: G - Green (General Storage)

SECTION 16 **ADDITIONAL INFORMATION**

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0

No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Date: 2/26/2019  
Phoenix Products Company

**Product Name:** pH & Alkalinity Down  
**Date:** 2/26/2019

**SECTION 1 IDENTIFICATION**

**Supplier:** Phoenix Products Company  
55 Container Drive  
Terryville, CT 06786  
(860) 589-7502

**Distributor:** Essentials.  
5070 Wallace Drive  
Cumming, GA 30041  
(626) 305-1182

**U.S. Emergency Telephone:** 1-800-222-1222  
**Product Name:** **pH & Alkalinity Down**  
**Synonyms:** Sodium Acid Sulfate; Sodium Hydrogen Sulfate; Nitre Cake; GBS  
**Chemical Name:** Sodium Bisulfate  
**Chemical Formula:** NaHSO<sub>4</sub>  
**CAS Number:** 7681-38-1  
**Product Use:** Reduces pH in swimming pools and spas.

**SECTION 2 HAZARDS IDENTIFICATION**

**Emergency Overview**

**Danger**



**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Serious eye damage (Category 1), H318

**Hazard Statement(s)**

H318: Causes serious eye damage  
H335: May cause respiratory irritation  
H303: May be harmful if swallowed

**Precautionary Statement(s)**

P233: Keep container tightly closed.  
P280: Wear protective gloves/eye protection/face protection.  
P262: Do not get in eyes, on skin, or on clothing.  
P271: Use only outdoors or in a well-ventilated area.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/physician.

**Potential Acute Health Effects**

**Inhalation:** Inhalation of dust may irritate nose, throat and/or lungs.

**Ingestion:** Small amounts (tablespoonful) swallowed are not likely to cause injury; however swallowing large amounts may irritate or burn digestive tract.

**Skin Contact:** Prolonged exposure may cause skin irritation.

**Eye Contact:** Causes serious eye irritation.

SECTION 2 **HAZARDS IDENTIFICATION**

**Potential Chronic Health Effects**

**Chronic Effects:** Contains material that may cause target organ damage, based on animal data.

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

**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.

**Target Organs:** Contains material which may cause damage to the following organs: mucous membranes, skin, eyes.

SECTION 3 **COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Component</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Bisulfate	7681-38-1	95%

SECTION 4 **FIRST-AID MEASURES**

**Eye Contact:** Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. If redness or irritation persists, get prompt medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 20 minutes. If skin irritation occurs, seek medical attention.

**Inhalation:** Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If irritation or discomfort persists, seek medical attention.

**Ingestion:** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.

**Protection of First-Aiders:** If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to Physician:** Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5 **FIRE FIGHTING MEASURES**

**Flammability of the Product:** Non-flammable.

**Extinguishing Media**

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

**Not Suitable:** None known.

**Special hazards arising from the substance or mixture:** Sulfur oxides, Sodium oxides

**Special Protective Equipment for Fire-Fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental Precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods For Cleaning Up

**Small Spill:** Stop leak if without risk. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large Spill:** Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

## SECTION 7 HANDLING AND STORAGE

**Handling:** Put on appropriate personal protective equipment (see Section 8). Avoid breathing dusts. Wash thoroughly after handling.

**Storage:** Material is hygroscopic and will readily absorb moisture. DO NOT store dry product where exposed to moist conditions. Keep container tightly closed.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components With Workplace Control Parameters:** Contains no substances with occupational exposure limit values.

**Recommended Monitoring Procedures:** Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering Measures:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Hygiene Measures:** Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

### **Personal Protective Equipment**

**Eye/Face Protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin 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.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued**

**Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Environmental Exposure Controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Do not let product enter drains.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Crystalline White Granular
<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	Not Available
<b>Solubility:</b>	Easily soluble in hot water. Soluble in cold water.
<b>pH:</b>	<1 [Conc. (% w/w): 5%]
<b>Melting/Freezing Point:</b>	177°C (350.6°F)
<b>Boiling Point:</b>	Not Applicable
<b>Flash Point:</b>	Not Available
<b>Specific Gravity:</b>	1.28 g/cm <sup>3</sup>
<b>Vapor Density (Air=1):</b>	Not Available
<b>Vapor Pressure (mm Hg):</b>	Not Available
<b>Evaporation Rate (BuAc=1):</b>	Not Available
<b>Partition Coefficient (n-octanol/water):</b>	Not Available
<b>Auto-ignition Temperature:</b>	Not Available
<b>Molecular Weight:</b>	120.6 g/mole

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** The product is stable.

**Conditions to Avoid:** DO NOT store dry product where exposed to moist conditions.

**Incompatible Materials:** Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. DO NOT MIX dry or concentrated solutions of this product with concentrated solutions of chlorine bleach, ammonia cleansers or similar products.

**Hazardous Decomposition Products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Possibility of Hazardous Reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

SECTION 11 **TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

Product/Ingredient Name	Result	Species	Dose	Exposure
Sodium Bisulfate	LD50 Oral	Rat	2800 mg/kg	

**Skin Corrosion/Irritation**

Skin – rabbit

Result: No skin irritation – 4h (OECD Test Guideline 404)

**Serious Eye Damage/Eye Irritation**

Eyes – rabbit

Result: Risk of serious damage to eyes. (OECD Test Guideline 405)

**Mutagenicity:** Not Available

**Carcinogenicity:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive Toxicity:** Not Available

**Specific target organ toxicity - single exposure:** Not Available

**Specific target organ toxicity - repeated exposure:** Not Available

**Aspiration Hazard:** Not Available

**Additional Information:** RTECS: VZ1860000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12 **ECOLOGICAL INFORMATION**

**Environmental Effects:** This product readily dissolves in water to form a weak acid solution. A 0.05 percent or greater (by weight) solution of this product will likely be acutely harmful to aquatic life.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Other Adverse Effects:** No known significant effects or critical hazards.

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste Disposal:** The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Contaminated Packaging:** Dispose of as unused product.

**SECTION 14 TRANSPORTATION DATA**

<b>DOT:</b>	<b>UN Number:</b>	NOT REGULATED
	<b>UN Proper Shipping Name:</b>	NOT REGULATED
	<b>Transport Hazard Class:</b>	NOT REGULATED
	<b>Packing Group:</b>	NOT REGULATED

**SECTION 15 REGULATORY INFORMATION**

**United States**

**HCS Classification :** Irritating material

**U.S. Federal regulations : United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** Sodium bisulfate

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Sodium bisulfate:

Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):** Not listed

**Clean Air Act Section 602 Class I Substances:** Not listed

**Clean Air Act Section 602 Class II Substances:** Not listed

**DEA List I Chemicals (Precursor Chemicals):** Not listed

**DEA List II Chemicals (Essential Chemicals):** Not listed

**State Regulations**

**Massachusetts :** None of the components are listed.

**New York :** None of the components are listed.

**New Jersey :** None of the components are listed.

**Pennsylvania :** None of the components are listed.

**California Prop. 65:** No products were found.

**Canada**

**WHMIS (Canada):** Class D-2B: Material causing other toxic effects (Toxic).

**Canadian Lists**

**Canadian NPRI:** None of the components are listed.

**CEPA Toxic substances:** None of the components are listed.

**Canada inventory:** All components are listed or exempted.

**International Lists**

**Australia inventory (AICS):** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Japan inventory:** All components are listed or exempted.

**Korea inventory:** All components are listed or exempted.

**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.





SAFETY DATA SHEET  
pH & Alkalinity Down - 0140

SECTION 16 ***ADDITIONAL INFORMATION***

NFPA Ratings: Health: 1      Flammability: 0      Reactivity: 0  
HMIS Ratings: Health: 1      Chronic Health: -      Flammability: 0      Physical: 0

No representations or warranties, either expressed or implied, of merchant ability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Date: 2/26/2019  
Phoenix Products Company

**SECTION 1: IDENTIFICATION****1.1. Product Identifier****Product Form:** Mixture**Product Name:** Nature<sup>2</sup> Spa**Synonyms:** Nature<sup>2</sup> Spa™, Proclear™, Sparkle Clear™, Fresh Water AG+™, ThermoClear™, SunPurity™ Mineral Spa Sanitizer, Vision™, Artesian Mineral Spa Sanitizer™, Monarch™ Mineral Spa Sanitizer**1.2. Intended Use of the Product****Use of the substance/mixture:** Spa water sanitization and disinfection**1.3. Name, Address, and Telephone of the Responsible Party****Company**

Zodiac Pool Systems, Inc.

2620 Commerce Way

Vista, CA 92081

(760) 599-9600

**1.4. Emergency Telephone Number****Emergency Number** : (CHEMTREC US) 800-424-9300 (CHEMTREC International) 703-527-3887**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the Substance or Mixture****Classification (GHS-US)**

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

**2.2. Label Elements****GHS-US Labeling****Hazard Pictograms (GHS-US)**

GHS09

**Signal Word (GHS-US)**

: Warning

**Hazard Statements (GHS-US)**

: H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements (GHS-US)**

: P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container according to local, regional, national, and international regulations

**2.3. Other Hazards****Other Hazards:** Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.**2.4. Unknown Acute Toxicity (GHS-US)**

No data available

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substance**

Not applicable

**3.2. Mixture**

Name	Product identifier	%	Classification (GHS-US)
Zinc	(CAS No) 7440-66-6	50 - 70	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Aluminum oxide	(CAS No) 1344-28-1	20 - 40	Aquatic Acute 3, H402
Silver	(CAS No) 7440-22-4	0.92	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

### SECTION 4: FIRST AID MEASURES

#### 4.1. Description of First Aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

**First-aid Measures After Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact:** Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**First-aid Measures After Ingestion:** Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/Injuries:** Not expected to present a significant hazard under anticipated conditions of normal use.

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

#### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

#### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

#### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Other information:** Refer to Section 9 for flammability properties.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray).

##### 6.1.1. For Non-emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

##### 6.1.2. For Emergency Responders

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Stop spill if safe to do so. Ventilate area.

#### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clear up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

#### 6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for Safe Handling

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

# Nature<sup>2</sup> Spa

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Products:** Strong acids. Strong bases. Strong oxidizers.

### 7.3. Specific End Use(s)

Spa water sanitization and disinfection.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

Silver (7440-22-4)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.01 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.01 mg/m <sup>3</sup>

Aluminum oxide (1344-28-1)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>

### 8.2. Exposure Controls

#### Appropriate Engineering Controls

: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

#### Personal Protective Equipment

: Protective goggles. Gloves. Protective clothing.



#### Materials for Protective Clothing

: Chemically resistant materials and fabrics.

#### Hand Protection

: Wear chemically resistant protective gloves.

#### Eye Protection

: Chemical goggles or safety glasses.

#### Skin and Body Protection

: Wear suitable protective clothing.

#### Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

#### Environmental Exposure Controls

: Do not allow the product to be released into the environment.

#### Consumer Exposure Controls

: Do not eat, drink or smoke during use.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Mixture of grey colored spheres and zinc shot
Odor	: None
Odor Threshold	: No data available
pH	: No data available
Relative Evaporation Rate (butylacetate=1)	: No data available
Melting Point	: 2040 °C 3704 °F (Aluminum Oxide)
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Specific Gravity	: 2

**Solubility** : No data available  
**Partition coefficient: n-octanol/water** : No data available  
**Viscosity** : No data available

**9.2. Other Information** No additional information available

## SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:** Hazardous reactions will not occur under normal conditions.  
**10.2 Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).  
**10.3 Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.  
**10.4 Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.  
**10.5 Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.  
**10.6 Hazardous Decomposition Products:** Silver oxides. Aluminium oxides. Zinc oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information On Toxicological Effects

**Acute Toxicity:** Not classified

<b>Silver (7440-22-4)</b>	
<b>LD50 Oral Rat</b>	> 2000 mg/kg
<b>Aluminum oxide (1344-28-1)</b>	
<b>LD50 Oral Rat</b>	> 15900 mg/kg
<b>LC50 Inhalation Rat</b>	> 2.3 mg/l/4h

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General** : Very toxic to aquatic life with long lasting effects.

<b>Silver (7440-22-4)</b>	
<b>LC50 Fish 1</b>	0.00155 - 0.00293 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>EC50 Daphnia 1</b>	0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>LC 50 Fish 2</b>	0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
<b>Aluminum oxide (1344-28-1)</b>	
<b>LC50 Fish 1</b>	14.6 mg/l
<b>EC50 Daphnia 1</b>	38.2 mg/l
<b>NOEC (acute)</b>	> 50 mg/l
<b>Zinc (7440-66-6)</b>	
<b>LC50 Fish 1</b>	2.16 - 3.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>EC50 Daphnia 1</b>	0.139 - 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>LC 50 Fish 2</b>	0.211 - 0.269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])

# Nature<sup>2</sup> Spa

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**12.2. Persistence and Degradability** No additional information available

**12.3. Bioaccumulative Potential** No additional information available

**12.4. Mobility in Soil** No additional information available

**12.5. Other Adverse Effects**

**Other Information** : Avoid release to the environment.

### SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

**Ecology – Waste Materials:** Avoid release to the environment.

### SECTION 14: TRANSPORT INFORMATION

**14.1 In Accordance with DOT**

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.(contains silver, aluminum oxide, zinc)

**Hazard Class** : 9

**Identification Number** : UN3077

**Label Codes** : 9

**Packing Group** : III

**Marine Pollutant** : Marine pollutant

**ERG Number** : 171

**14.2 In Accordance with IMDG**

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains silver, aluminum oxide, zinc)

**Hazard Class** : 9

**Identification Number** : UN3077

**Packing Group** : III

**Label Codes** : 9

**EmS-No. (Fire)** : F-A

**EmS-No. (Spillage)** : S-F

**Marine pollutant** : Marine pollutant

**14.3 In Accordance with IATA**

**Proper Shipping Name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains silver, aluminum oxide, zinc)

**Packing Group** : III

**Identification Number** : UN3077

**Hazard Class** : 9

**Label Codes** : 9

**ERG Code (IATA)** : 9L



### SECTION 15: REGULATORY INFORMATION

**15.1 US Federal Regulations**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

#### PRECAUTIONARY STATEMENT

Hazards to Humans and Domestic Animals.

#### CAUTION

In the unlikely event that a cartridge breaks, mineral media should not be ingested by humans or animals as it may cause gastric distress.

#### FIRST AID IF INGESTED:

Call poison control center or doctor immediately for treatment advice.

# Nature<sup>2</sup> Spa

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Silver (7440-22-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
<b>RQ (Reportable quantity, section 304 of EPA's List of Lists) :</b>	1000 lb < 100 um CERCLA/SARA RQ CHANGE TITLE
<b>SARA Section 313 - Emission Reporting</b>	1.0 %
<b>Aluminum oxide (1344-28-1)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
<b>SARA Section 313 - Emission Reporting</b>	1.0 % (fibrous forms)
<b>Zinc (7440-66-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
<b>SARA Section 313 - Emission Reporting</b>	1.0 % (dust or fume only)

### 15.2 US State Regulations

<b>Silver (7440-22-4)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Aluminum oxide (1344-28-1)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Zinc (7440-66-6)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<b>Revision date</b>	: 12/02/2015
<b>Other Information</b>	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

#### GHS Full Text Phrases:

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)