

Nature² Spa

Safety Data Sheet

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

Revision Date: 12/02/2015 Date of issue: 10/27/2014

Version: 2.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Nature² Spa

Synonyms: Nature² 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

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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.

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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 ³)	0.1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.01 mg/m ³
USA IDLH	US IDLH (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.01 mg/m ³

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

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

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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

Silver (7440-22-4)	
LD50 Oral Rat	> 2000 mg/kg
Aluminum oxide (1344-28-1)	
LD50 Oral Rat	> 15900 mg/kg
LC50 Inhalation Rat	> 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.

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

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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.

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

15.2 US State Regulations

Silver (7440-22-4)
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
Aluminum oxide (1344-28-1)
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
Zinc (7440-66-6)
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

Revision date	: 12/02/2015
Other Information	: 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)

mineral buddies

SAFETY DATA SHEET

Specifically Designed for Mineral Treated Spas

Product name **Mineral Buddies™ Shock Treatment**

Revision date **10-10-16**

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

Product ID: Shock Treatment
Chemical Name and Synonyms: Potassium Monopersulfate Compound
Chemical Formula: Proprietary
Chemical Family: Peroxygen Salt
Product Use: Safe, Effective, Shock Oxidizer Treatment

Supplier: Oreq Corporation
42306 Remington Ave.
Temecula, CA 92532
951-296-5076

Distributor: Carefree Stuff
5220 4th Street, Ste 2
Irwindale, CA 91706
626-337-0611

Emergency Telephone# **CHEMTREC 800-424-9300**

Product hazard category

Acute toxicity (Oral)	Category 4
Skin corrosion	Category 1B
Serious eye damage/eye irritation	Category 1

SIGNAL WORD: **DANGER**

HAZARD PICTOGRAMS:



**Hazardous prevention:
measures**

P260- Do not breathe dust or mist.
P264- Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301+330+331- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353- IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+312- IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+311- Immediately call a POISON CENTER or doctor/ physician.
P362+364- Take off contaminated clothing and wash it before reuse.
P405- Store locked up.
P501- Dispose of contents/ container to an approved waste disposal plant.

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

COMPONENT	%	CAS#
Potassium Monopersulfate	32.18%	70693-62-8
Inert ingredients	67.82%	Proprietary

The exact formulation is being withheld as a trade secret.

While some substances are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.12009i), all known hazards are clearly communicated within this document.

- General advice :** When symptoms persist or in all cases of doubt seek medical advice.
- Inhalation :** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. Call a poison control center or doctor for further treatment advice.
- Skin contact :** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. immediately. Wash contaminated clothing before re-use.
- Eye contact :** Hold Eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- Ingestion :** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting. Do not give anything by mouth to an unconscious person.
- Most important: symptoms/effects, acute and delayed** No applicable data available.
- Protection of first-aiders:** No applicable data available.
- Notes to physician :** No applicable data available.
- Suitable extinguishing media :** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media:** Carbon dioxide (CO2)
- Specific hazards :** The product itself does not burn.
Hazardous decomposition products Oxygen, Sulphur dioxide, Sulfur trioxide
- Special protective equipment for firefighters:** Wear self-contained breathing apparatus and protective suit.
- Further information :** No applicable data available.

Product name Mineral Buddies™ Shock Treatment
Revision date 10-10-16

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel): Evacuate personnel to safe areas. Use personal protective equipment.
Environmental precautions : Try to prevent the material from entering drains or water courses.
Spill Cleanup: Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.
Accidental Release Measures: Try to prevent the material from entering drains or water courses. Dispose of in accordance with local regulations.

Handling: Use only in well-ventilated areas. Do not breathe dust. Avoid dust formation in confined areas. Avoid contact with skin and eyes. Keep away from heat and flame. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice

Handling (Physical Aspects): No applicable data available.
Dust explosion class: No applicable data available.

Storage: Keep in a dry, cool and well-ventilated place. Protect from contamination. Store in original container. Keep away from: Combustible material Never allow product to get in contact with water during storage. Stable under recommended storage conditions.

Storage period: No applicable data available.
Storage temperature: No applicable data available

Engineering controls: Ensure adequate ventilation.

Personal protective equipment

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hand protection: Material: Impervious gloves
Eye protection : Wear safety glasses or coverall chemical splash goggles.
Skin and body protection: Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots. Remove and wash contaminated clothing before re-use.
Protective measures: When using do not eat or drink. Do not breathe dust.

Exposure Guidelines

Exposure Limit Values

Potassium Monopersulfate-

Pentapotassium bis(peroxymonosulphate) bis(sulphate)
AEL * (DUPONT) 1 mg/m3 15 minute TWA

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Dipotassium peroxodisulphate
TLV (ACGIH) 0.1 mg/m³ TWA as persulfate

Potassium sulfate
AEL * (DUPONT) 10 mg/m³ 8 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

Appearance (Physical state, form, colour, etc.)

Form : Solid form, granular
Color : white
Odor : none
Odor threshold : No applicable data available.
pH : 2.1 at 30 g/l 20 °C (68 °F)
Melting point/freezing point : Melting point
Decomposes before melting.
Boiling point/boiling range : Boiling point
Not applicable
Flash point : does not flash
Evaporation rate : No applicable data available.
Flammability (solid, gas) : The product itself does not burn, but it is slightly oxidising (active oxygen content ca. 2%).
The product is not flammable.
Upper explosion limit : No applicable data available.
Lower explosion limit : No applicable data available.
Vapor pressure : < 0.000017 hPa
Vapour density : No applicable data available.
Density : No applicable data available.
Specific gravity (Relative density) : 2.35 at 20 °C (68 °F)
Bulk density : 1,100 - 1,400 kg/m³
Water solubility : 297 - 357 g/l at 22 °C (72 °F)
Solubility(ies) : No applicable data available.
Partition coefficient: n-octanol/water : No applicable data available.
Ignition temperature : no data available
Auto-ignition temperature : No applicable data available.
Decomposition temperature : No applicable data available.
Viscosity : No applicable data available.
Oxidizing Substance : The substance or mixture is not classified as oxidizing.

Reactivity: Stable under recommended storage conditions.

Stability: Stable under normal conditions.

Possibility of hazardous reactions No applicable data available.

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Conditions to avoid: Temperature > 50 °C (> 122 °F) Avoid extreme heat.

Incompatibility: Halogenated compounds Cyanides, Heavy metal salts

Hazardous decomposition products: Oxygen , Sulfur dioxide, Sulfur trioxide products

Potassium Monopersulfate

Monopersulfate compound

Inhalation 4 h LC50: > 5 mg/l, rat
Skin irritation: Species: rabbit, Causes burns.
Eye irritation: Species: rabbit, Severe eye irritation
Sensitisation: Species: guinea pig, Did not cause sensitization on laboratory animals.

May cause sensitization of susceptible persons by skin contact or by inhalation of dust.

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

Dermal LD50: > 11,000 mg/kg, rabbit
Oral LD50: 200 - 2,000 mg/kg, rat Gastrointestinal ulceration Internal bleeding
Repeated dose toxicity: Inhalation
Eyes, corneal damage, Reversible
Oral
Stomach, Pathologic changes

Mutagenicity: Did not cause genetic damage in cultured bacterial cells., Tests on mammalian cell cultures showed mutagenic effects., Evidence suggests this substance does not cause genetic damage in animals.

Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Dipotassium peroxodisulphate

Dermal LD50: > 10,000 mg/kg , Rabbit
Oral LD50: 1,130 mg/kg , Rat
Repeated dose toxicity: Oral Rat-
NOAEL: 131.5 mg/kg Method: OECD Test Guideline 407
No toxicologically significant effects were found.

Carcinogenicity: Not classifiable as a human carcinogen.
Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar substances.

Mutagenicity: Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Information given is based on data obtained from similar substances.

Reproductive toxicity: No toxicity to reproduction Animal testing showed no reproductive toxicity. Information given is based on data obtained from similar substances.

Teratogenicity: Animal testing showed no developmental toxicity. Information given is based on data obtained from similar substances.

Tetra[carbonato(2-)]dihydroxypentamagnesium

Oral LD50: > 2,000 mg/kg , Rat

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Repeated dose toxicity: Information given is based on data obtained from similar substances.
Oral, Rat
- 90 d
NOAEL: 1,531 mg/kg Method: OECD Test Guideline 408
No toxicologically significant effects were found., Information given is based on data obtained from similar substances.

Carcinogenicity: Not classifiable as a human carcinogen. Information given is based on data obtained from similar substances. Animal testing did not show any carcinogenic effects.

Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Evidence suggests this substance does not cause genetic damage in animals. Information given is based on data obtained from similar substances.

Reproductive toxicity: No toxicity to reproduction Information given is based on data obtained from similar substances. Animal testing showed no reproductive toxicity.

Teratogenicity: Information given is based on data obtained from similar substances. Animal testing showed no developmental toxicity.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

Potassium Monopersulfate

Aquatic Toxicity

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

96 h LC50: Cyprinodon variegatus (sheepshead minnow) 1.09 mg/l Directive 67/548/EEC, Annex V, C.1.
96 h ErC50: Selenastrum capricornutum (green algae) > 1 mg/l OECD Test Guideline 201
72 h NOEC: Selenastrum capricornutum (green algae) 0.5 mg/l
48 h EC50: Daphnia magna (Water flea) 3.5 mg/l OECD Test Guideline 202
37 d: NOEC Cyprinodon variegatus (sheepshead minnow) 0.222 mg/l
28 d: NOEC Americamysis bahia (mysid shrimp) 0.267 mg/l

Dipotassium peroxodisulphate

96 h LC50: Oncorhynchus mykiss (rainbow trout) 76.3 mg/l US EPA Test Guideline OPP 72-1
Information given is based on data obtained from similar substances.
72 h EbC50: Pseudokirchneriella subcapitata (green algae) 83.7 mg/l OECD Test Guideline 201
Information given is based on data obtained from similar substances.
72 h NOEC: Pseudokirchneriella subcapitata (green algae) 39.2 mg/l OECD Test Guideline 201
Information given is based on data obtained from similar substances.
48 h EC50: Daphnia magna (Water flea) 120 mg/l US EPA Test Guideline OPP 72-2
Information given is based on data obtained from similar substances.

Tetra[carbonato(2-)]dihydropentamagnesium

96 h LC50: Pimephales promelas (fathead minnow) 2,120 mg/l

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

72 h EC50:

Information given is based on data obtained from similar substances.
Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test Guideline 201

72 h NOEC:

Information given is based on data obtained from similar substances.
Desmodesmus subspicatus (green algae) 100 mg/l OECD Test Guideline 201

48 h EC50:

Information given is based on data obtained from similar substances.
Daphnia magna (Water flea) 140 mg/l
Information given is based on data obtained from similar substances.

**Physico-chemical
removability:**

hydrolyses

Environmental Fate

Dipotassium peroxodisulphate

Biodegradability: Readily biodegradable.

Tetra[carbonato(2-)]dihydroxypentamagnesium

Biodegradability: The methods for determining biodegradability are not applicable to inorganic substances.

Waste Disposal Methods:

Dispose of in accordance with local regulations.

Contaminated Packaging:

If recycling is not practicable, dispose of in compliance with local regulations.

DOT

UN-Number: 3260

Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s.
(Monopersulfate Compound)

Class: 8

Packaging group: II

Labeling No.: 8

IATA_C

UN number: 3260

Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s.
(Monopersulfate Compound,)

Class: 8

Packaging group: II

Labeling No.: 8

IMDG

UN number: 3260

Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Monopersulfate Compound,)

Class: 8

Packaging group: II

Labeling No.: 8

Product name Mineral Buddies™ Shock Treatment
Revision date 10-10-16

TSCA : On the inventory, or in compliance with the inventory
Other regulations : Active Ingredient in this composition is POTASSIUMPEROXYMONOSULFATE, CAS. No. 10058-23-8, Concentration: 43-47% (Typical 45%) Active ingredient may also be described by the synonym POTASSIUM MONOPERSULFATE.

SARA 313 Regulated Chemical(s) : 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.

PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Dipotassium peroxodisulphate

NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Dipotassium peroxodisulphate,

Title III hazard Classification Potassium hydrogensulphate
: Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire: No
Reactivity/Physical hazard: No
Pressure: No

California Prop. 65 : Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

DATE OF PREPARATION
10-10-2016

THE INFORMATION SUPPLIED ABOVE IS PRESENTED IN GOOD FAITH AND HAS BEEN DERIVED FROM SOURCES BELIEVED TO BE RELIABLE, HOWEVER, NO WARRANTY EXPRESSED OR IMPLIED IS EXTENDED REGARDING ITS ACCURACY OR THE RESULTS TO BE OBTAINED FROM ITS USE SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL. ALL RISKS ARE ASSUMED BY THE USER.

Product Name: Chlorinating Granules
Date: 10/29/2015

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

Chemical Name: Sodium Dichloro-S-Triazinetrione Dihydrate

Chemical Formula: C₃N₃O₃Cl₂Na.2H₂O

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

Component	CAS Number	Percent
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 DICHLOROISOCYANURATE 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

Appearance:	White granules
Odor:	Mild chlorine-like
Boiling Point/Range:	Not Applicable
Melting Point/Range:	Not applicable
Flash Point:	Not applicable
Auto-Ignition Temperature:	Not self-ignitable
Vapour Pressure:	Not applicable under standard Conditions
Evaporation Rate (ether=1):	Not applicable under standard conditions
Vapor Density:	Not applicable under standard
Viscosity:	Not applicable
Specific Gravity:	2.0
pH Factor:	5-7
Solubility:	26.25g/100g (26°C)
Density:	Tap density = 0.974 g/mL Pour density = 1.083 g/mL kg/L
Decomposition Temperature:	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

Inner packagings not over 5.0 kg (11 lbs) net capacity each for solids, packed in a strong outer packaging:
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.

Inner packagings over 5.0 kg (11 lbs) net capacity each for solids, packed in a strong outer packaging:

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

- **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



SAFETY DATA SHEET
Chlorinating Granules - 0030

any other nature are made hereunder with respect to information or the product to which information refers.

Date: 10/29/2015
Phoenix Products Company