

Product Name: SPA FROG® Mineral Cartridge
Revision Date: October 1, 2016
Supersedes: Rev 5, 05/21/2015

Revision: 6

1. Identification

Product Identifier: SPA FROG® Mineral Cartridge
Other Means of Identification: Calcium carbonate with silver chloride
Recommended Use: Spa water conditioner
Supplier: King Technology, Inc
 530 11th Ave S, Hopkins, MN 55343, USA
 Phone (952) 933-6118
EPA Registration Number: 53735-11
Emergency Telephone: Chemtrec (800) 424-9300

2. Hazards Identification

GHS Classification: Not classified
GHS Label Elements:
 – **Signal Word:** None
 – **Pictograms:** None
 – **Hazard Statements:** None
 – **Precautionary Statements:** None
Unclassified Hazards: None
Percentage of Ingredients with Unknown Toxicity: Zero

3. Composition / Information on Ingredients

Components CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
Silver chloride 7783-90-6	< 1%	N/A	N/A
Calcium carbonate 471-34-1	>98%	10mg/m3	15mg/m3

The specific percentages of composition have been withheld as trade secrets.

4. First-aid Measures

Eye contact: Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If irritation occurs, call a doctor for treatment advice.
Skin contact: Flush thoroughly with water.

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Inhalation:	Move person to fresh air. If irritation occurs, call a doctor for treatment advice.
Ingestion:	Ingestion of significant amounts is unlikely. If irritation occurs, call a doctor for treatment advice.
Most Important Symptoms, Acute and Delayed:	No known symptoms.
Immediate Medical Attention Required:	None required.

5. Fire-fighting Measures

Suitable Extinguishing Media:	There are no unusual fire or explosion hazards with this material. This material is stable, non-hazardous.
Unsuitable Extinguishing Media:	None known.
Special Protective Equipment and Precautions for Fire-fighters:	There are no unusual fire or explosion hazards with this material. This material is stable, non-hazardous.
Specific Hazards Arising From the Chemical:	None known.

6. Accidental Release Measures

Personal Precautions:	Using appropriate equipment, contain spilled material.
Methods for Cleaning Up:	Product is a non-hazardous solid. Sweep up material and dispose of as normal household waste.

7. Handling and Storage

Handling:	Product is non-hazardous. There are no specific handling requirements.
Storage:	Keep this product in original closed container when not in use. Store in cool, dry, well ventilated area away from open flame.

8. Exposure Controls / Personal Protection

Exposure Limits:	See Section 3.
Appropriate Engineering Controls:	None required.
Personal protective equipment:	
– Respiratory protection:	None required.

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– **Hand protection:** None required.
– **Eye protection:** None required.
– **Skin and body protection:** None required.
Hygiene measures: None required.
Other Precautions: None required.

9. Physical and Chemical Properties

Appearance: White granular material
Odor: Not available
Odor threshold: Not available
Melting point / range: Not available
Boiling point / range: Not available
Flash point: Not available
Evaporation rate: Not available
Flammability: Not available
Vapor pressure: Not available
Vapor density: Not available
Bulk density: Not available
Solubility in water: Not available
Specific gravity: Not available
pH: Not available
Flammability limits: Not available
Partition coefficient: Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Viscosity: Not available

10. Stability and Reactivity

Reactivity: Not reactive under normal conditions.
Stability: This product is stable under normal conditions
Incompatible materials: None known.
Conditions to avoid: None known.
Hazardous decomposition products: None known.
Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions.

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11. Toxicological Information

Acute toxicity: No data available
Carcinogenicity: This product is not listed as a carcinogen by IARC.
This product is not listed as a carcinogen by NTP.
This product is not listed as a carcinogen by OSHA

12. Ecological Information

No data available

13. Disposal Considerations

Waste disposal: Product is a non-hazardous solid. Sweep up material and dispose of as normal household waste.

14. Transportation Information

Not applicable

15. Regulatory Information

EPA FIFRA Information: This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

16. Other Information

Date of preparation: October 1, 2016

Details of change from previous version:

- Updated Corporate Logo

This information is given without a warranty or guarantee. No suggestions for use are intended or shall be construed as a recommendation to infringe any existing patents or violate any Federal, State, or local laws. Safe handling and use is the responsibility of the customer. Read the label before using this product. This information is true and accurate to the best of our knowledge.

Prepared by: King Technology, Inc.
530 11th Ave S
Hopkins, MN 55343 USA
Phone (952) 933-6118

End of safety data sheet

This Safety Data Sheet contains information concerning the potential risks to those involved in handling, transporting and working with the material, as well as describing potential risks to the consumer and the environment. This information must be made available to those who may come into contact with the material or are responsible for the use of the material. This Safety Data Sheet is prepared in accordance with formatting described in the REACH Annex II Amendment (EU) 2015/830, and described in CLP Regulation (EC) No 1272/2008 and subsequent amendments.

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Name: SPA Frog Bromine Cartridge
Chemical Name: 1-bromo-3-chloro-5,5-dimethylhydantoin
CAS Number: 32718-18-6
EINECS Number: 251-171-5

1.2 Relevant identified uses of the substances or mixture and uses advised against

Only for use in the treatment of water used in spas, hot tubs and other venues meant for human bathing.

1.3 Details of the supplier of the safety data sheet

European Contact:

Golden Coast LTD
Fishleigh Road
Barnstaple, Devon EX31 3UA

+44 1271 378100

Manufacturer:

King Technology Inc,
530 11th Avenue South,
Hopkins, MN 55343
U.S.A.
sdsinfo@kingtechnology.com
+1 952 933 6118

1.4 Emergency telephone number

Emergency telephone number: Chemtrec: +1 703 741 5970 (Operational 24 hours a day).

Section 2. Hazards Identification

SUBSTANCE:

2.1 Classification of the substance

Classification according to Regulation (EC) No. 1272/2008.	Ox. Sol. 3; H272 May intensify fire; oxidizer Acute Tox 4; H302 Harmful if swallowed. Skin Corr. 1B; H314 Causes severe skin burns and eye damage. Skin Sens. 1; H317 May cause an allergic skin reaction. Aquatic Acute; 1 H400 Very toxic to aquatic life. EUH031; Contact with acids liberates toxic gases.
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2.2 Label elements

Regulation (EC) No 1272/2008:



Signal word

Danger

Hazard Statements

H272:	May intensify fire; oxidizer
H302:	Harmful if swallowed.
H314:	Causes severe skin burns and eye damage.
H317:	May cause an allergic skin reaction.
H400:	Very toxic to aquatic life.
EUH031	Contact with acids liberates toxic gas.

Precautionary statements:

P210:	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P220:	Keep/Store away from combustible materials.
P221:	Take any precaution to avoid mixing with combustibles.
P260:	Do not breathe dust/fumes/gas/mist/vapours/spray.
P273:	Avoid release to the environment.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331+P312:	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353:	IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water/shower.
P304+P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310:	Immediately call Poison Control Center or doctor.

P333+P313:	If skin irritation or rash occurs get medical advice/attention.
P362+P364:	Remove all contaminated clothing and thoroughly wash before reuse.
P370 + P378:	In case of fire: use foam, carbon dioxide, dry powder, or water fog to extinguish.
P391:	Collect spillage.
P405:	Store locked up.

2.3 Other hazards

May form explosive dust-air mixture if disbursed.

PBT / vPvB:	Not expected to be PBT/vPvB
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Section 3. Composition/Information on ingredients.

Name	CAS Number	EINECS Number	% Composition	Classification according to Regulation (EC) No. 1272/2008	REACH Registration Number
1-bromo-3-chloro-5,5-dimethylhydantoin	32718-18-6	251-171-5	96-99.5%	Ox. Sol. 3 H272 Acute Tox. 4 H302 Acute Tox. 4 H332 Skin Corr. 1B H314 Skin Sens. 1 H317 Aquatic Acute 1 H400	N/A

Section 4. First Aid Measures

4.1 Description of first aid measures

Inhalation

Remove victim to fresh air. Keep victim warm and at rest, preferably in a comfortable upright sitting position. Seek immediate medical attention.

Skin contact

Take off all contaminated clothing. Immediately flush the skin immediately with plenty of water; continue for 15-20 minutes. Seek medical attention if irritation persists after washing.

Accidental eye contact

Flush eyes with water thoroughly and continuously for at least 15 minutes. Keep eyes wide open while rinsing. Protect unharmed eye. If there are signs of irritation or other symptoms, seek medical attention.

Ingestion

Do not induce vomiting. Clean mouth with water and drink plenty of water afterwards. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

-Ocular	Corrosive.
-Dermal	Corrosive. Exposure to wet skin may cause burns.
-Inhalation	Irritant to upper respiratory tract.
-Ingestion	Harmful if swallowed.
-Sensitization	May cause skin sensitization.

4.3 Indication of any immediate medical attention and special treatment needed

Please refer to the recommendations provided in Section 4.1.

Section 5. Firefighting Measures**5.1 Extinguishing media**

Dry powder, carbon dioxide, or water spray. Water spray may be ineffective. In case of exothermic decomposition and appearance of smoke, water should be used to suppress it. Do not use dry chemical extinguisher containing ammonia compounds.

5.2 Special hazards arising from the substance or mixture

Fire may cause the formation of toxic gases. On combustion, hazardous products may include toxic gases/vapours/fumes of bromine or chlorine and oxides of carbon or nitrogen.

5.3 Advice for fire-fighters

Cool containers with water spray. In closed stores, provide fire fighters with self-contained breathing apparatus in positive pressure mode.

Section 6. Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate area. Use respirator with combined filter (inorganic gas and dust), gloves, chemical safety goggles and body covering clothes. If material is decomposing, use self-contained breathing apparatus and a fully encapsulated suit. Wash thoroughly after dealing with a spillage.

6.2 Environmental precautions

Provide ventilation and confine spill. Do not allow runoff to sewers. The treated water should not be discharged directly to surface waters.

6.3 Methods and material for containment and cleaning up

Collect any spilled material and reclaim or dispose of in sealed containers in licensed waste. Avoid generation and spreading of dust. Avoid contact with water while the product is in storage. If the product is released prior to use, it should be recovered dry prior to the use of water in the final clean up.

6.4 Reference to other sections

Refer to section 8 and/or Section 13 of SDS for personal protection details.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Avoid handling product in a way that dust may be formed. If air contamination is above accepted levels, use an approved respirator. Do not use in a confined space without adequate ventilation and/or respirator. Avoid spillages and any contact with the skin or eyes.

7.2 Condition for safe storage, including any incompatibilities

Keep in original container. Keep container closed when not in use. Keep in a cool, dry, ventilated storage place. Protect from light, including direct sun rays. Avoid contact with any acids and combustible materials.

7.3 Specific end use(s)

The product is only for use in spas and hot tubs.

Section 8. Exposure Controls/Personal Protection

8.1 Control parameters

Components	Weight %	ACGIH-TLV Data	UK (WEL) – TWA	Germany MAK (TRGS 900) data
1-bromo-3-chloro-5,5-dimethylhydantoin 32718-18-6	96-99.5%	Not determined	Not determined	Not determined

Manufacturer's TLV-TWA Recommendation 0.01 mg/m³

Manufacturer's Recommendation 0.01 mg/m³

8.2 Exposure controls

Appropriate Engineering Controls

Use appropriate engineering controls in the form of adequate ventilation to reduce air contamination to permissible exposure levels in the event that dust particles may migrate to the grooves and divots of the cartridge moulding during setting of the cartridge to the required setting.

Respiratory protection

All handling operations should take place in well ventilated areas, with the use of specific dust masks if required in non-ventilated areas in the event that dust particles may migrate to the grooves and divots of the cartridge moulding.

Hand protection

Suitable gloves should be worn. Suitable gloves to provide short-term protection from splashes include those made from rubber, neoprene or PVC. Gloves should be discarded and replaced if signs of degradation are observed.

Eye protection

Wear approved safety goggles or face shield.

Skin protection

Wear appropriate protective clothing (overalls) to prevent any possibility of skin contact.

Thermal Hazards

No information provided.

Environmental Exposure Controls

No additional information provided.

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Off-white granular solid.
Odour:	Slight odour
Odour Threshold:	Lower = not applicable Upper = not applicable
pH:	3.5 (diluted solution)
Melting point/range:	Not applicable (decomposes)
Boiling point/range:	Not applicable
Decomposition temperature:	160°C
Flash point:	Not applicable
Flammability/Explosion Limits:	Not available
Evaporation rate (ether = 1):	Not applicable under standard conditions
Vapour pressure:	9.35x10 ⁽⁻³⁾ Pa (25°C)
Vapour density:	Not applicable under standard conditions
Specific gravity:	1.8-2.0
Solubility:	
- Solubility in water:	0.22 g/100ml at 25°C
- Solubility in other solvents:	Benzene: 2.5 g/100ml at 25°C
Partition coefficient (n-octane/water)	Kow = <1 (pH 5-9)
Auto-ignition temperature:	Not available
Viscosity:	Not applicable
Explosive properties:	Dust may form a weak explosive mixture with air (class St1), but is considered insensitive to ignition from electrostatic discharges.
Oxidizing properties:	Expected to have oxidizing properties
Particle size:	Not available

9.2 Other information

No additional information.

Section 10. Stability and Reactivity

10.1 Reactivity

Combustible materials. Oxidizing agents. Bases.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Will not polymerize. Contact with combustible materials may initiate decomposition of the material and emission of smoke.

10.4 Conditions to avoid

Avoid contact with oxidisers or reducing agents, acids or alkalis. Avoid contact with moisture during storage.

10.5 Incompatible materials

Bases. Oxidizing agents. Combustible organic materials.

10.6 Hazardous decomposition products

Toxic gases, vapours or fumes of hydrogen bromide, bromine, hydrogen chloride and chlorine. Oxides of carbon and nitrogen may also be formed.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Acute Oral Toxicity:

Following oral administration of the substance to rats, the LD₅₀ was determined to be 929 mg/kg.

Acute Dermal Toxicity:

Following dermal application of the substance to the skin of rabbits, the LD₅₀ was determined to be >2000mg/kg.

Skin Corrosion/Irritation:

The substance is expected to cause burns.

Serious eye damage/irritation:

The substance is expected to cause burns.

Respiratory or skin sensitisation:

No information available. Based on available data the classification criteria are not met.

Carcinogenicity:

Not expected to be carcinogenic.

Germ cell Mutagenicity:

A reverse bacterial mutagenicity study (Ames test) indicated negative results, meaning the substance is not mutagenic.

Reproductive toxicity:

No information available. Based on available data the classification criteria are not met.

STOT-single exposure:

No information available. Based on available data the classification criteria are not met.

STOT-repeated exposure:

No information available. Based on available data the classification criteria are not met.

Aspiration hazard:

No information available. Based on available data the classification criteria are not met.

Route of exposure:

The expected route of exposure is *via* the dermal route.

Symptoms related to the physical, chemical and toxicological characteristics:

Following exposure to SPA Frog Bromine Cartridge, burns to the eyes and skin may result. If SPA Frog Bromine Cartridge is ingested, damage may be caused to internal organs.

Section 12. Ecological Information

12.1 Toxicity

Aquatic toxicity

96 hour – LC50, Fish

1.2 mg/l (Eastern oyster, Acute flow through)

1.9 mg/l (Mysid shrimp, Acute flow through)

0.4 mg/l (Rainbow trout, Static)

0.46 mg/l (Bluegill sunfish, Static)

48 hour – LC50, Daphnia magna

1.6 mg/l (Sheepshead minnow, Acute flow through)

0.75 mg/l (Static)

Avian toxicity

Oral LD50, Bobwhite quail

1839 mg/l

Dietary LC50, Mallard duck

>5620 ppm

Dietary LC50, Bobwhite quail

>5620 ppm

12.2 Persistence and degradability

Degradable by hydrolysis.

12.3 Bioaccumulative potential

Expected to be of low bioaccumulative potential.

12.4 Mobility in soil

No information provided.

12.5 Results of PBT and vPvB assessment

Since the substance is regulated under BPR, Regulation (EU) 528/2012, there is no PBT and vPvB assessment presented in the same format as per the REACH Regulation

12.6 Other adverse effects

Not applicable.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal of product: Dispose of in accordance with all waste regulations at a legal waste disposal facility. Do not reuse empty containers. Rinse thoroughly before discarding.

Disposal of packaging: Dispose of packaging with residue of product in the same manner as the product. Dispose of in accordance with all waste regulations at a legal waste disposal facility.

Waste Code: EAL 200129

Section 14. Transport Information

14.1 UN number

UN3085

14.2 UN proper shipping name

Oxidising Solid, Corrosive, N.O.S. (contains 1-bromo-3-chlor-5, 5-dimethylhydantoin)

14.3 Transport hazard class(es)

5.1+8

14.4 Packing group

III

14.5 Environmental hazards

Yes

14.6 Special precautions for user

No additional information

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No additional information provided.

Section 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information provided. Going through active BPR regulation registration process.

15.2 Chemical safety assessment

Not applicable as substance is being regulated in accordance with BPR 528/2012.

15.3 Use Biocides safely

Section 16. Other Information

Other information

This safety data sheet is prepared in accordance with REACH Annex II Amendment (EU) 2015/830.

H272 – May intensify fire; oxidizer in the classification of the substance

H302 – Harmful if swallowed

H314 – Causes severe skin burns and eye damage

H317 – May cause an allergic skin reaction

H400 – Very toxic to aquatic life

EUH031 – Contact with acids liberates toxic gas

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

Details of change from previous version:

- New revision number
- Section 2.1: Added "Ox. Sol. H272: May intensify fire; oxidizer in the classification of the substance."
- Section 2.2: Added oxidizing pictogram and the following phrases:
 - Ox. Sol. H272: May intensify fire; oxidizer in the classification of the substance.
 - P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 - P220: Keep/Store away from combustible materials.
 - P221: Take any precaution to avoid mixing with combustibles.
 - P370 + P378: In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish
- Section 3: updated to include Ox. Sol H272
- Section 9: updated to include Odour Threshold
- Section 14.2: added "(contains 1-bromo-3-chlor-5, 5-dimethylhydantoin)"
- Section 16: updated to include Ox. Sol H272

List of definitions:

BPR: Biocidal Product Regulation

CAS number: Chemical Abstracts Service Registry number

EEC: European Economic Community

EC: European Commission/Community

EC₅₀: Half maximal effective concentration.

EINECS: European Inventory of Existing Commercial Chemical Substances.

LC₅₀: Lethal Concentration at which 50% of the population tested died.

PBT: Persistent Bioaccumulative Toxic

SDS: Safety Data Sheet

vPvB: very Persistent very Bioaccumulative.

Product Name: FROG® Jump Start
Revision Date: October 1, 2016 Rev 2,
Supersedes: 05/20/2015
Revision: 3

1. Identification

Product Identifier: FROG® Jump Start

Other Means of Identification: Sodium dichloroisocyanurate ; NaDCCA Dichlor; Sodium dichloro-s-triazinetriene; Chloroisocyanurate

Recommended Use: Swimming pools, spas, hot tubs disinfectant; spa and hot tub shock

Supplier: King Technology, Inc
530 11th Ave S, Hopkins, MN 55343, USA
Phone (952) 933-6118

EPA Registration Number: 53735-12

Emergency Telephone: Chemtrec (800) 424-9300

2. Hazards Identification

GHS Classification: Eye Damage: Category 1
Skin Irritation: Category 2
Oxidizing Solids: Category 2
Specific Target Organ Toxicity (Single Exposure): Category 3
Acute Toxicity (Inhalation): Category 4
Acute Toxicity (Oral): Category 4
Acute Toxicity (Dermal): Category 4

GHS Label Elements:

– **Signal Word:** DANGER

– **Pictograms:**



– **Hazard Statements:** Causes serious eye damage
Causes skin irritation
May intensify fire; oxidizer
May cause respiratory irritation
Harmful if inhaled
Harmful if swallowed
Harmful in contact with skin

– **Precautionary Statements:** Keep away from heat.
Keep away from clothing or other combustible materials.
Take any precaution to avoid mixing with combustibles.
In case of fire: Use large amounts of water to extinguish.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing, and eye and face protection.
Wash exposed areas thoroughly after handling.
Do not eat, drink or smoke when using this product.
In in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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Immediately call a poison center or doctor.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center or doctor if you feel unwell.
 If swallowed: Call a poison center or doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If skin irritation occurs: Get medical attention.
 Call a poison center or doctor if you feel unwell.
 Specific treatment (see First-aid Measures on this safety data sheet).
 Take off contaminated clothing and wash it before reuse.
 Store locked up in a well-ventilated place. Keep container tightly closed.
 Dispose of contents and container in accordance with
 local/regional/national/international regulations.

Unclassified Hazards: None

**Percentage of Ingredients with
Unknown Toxicity:** Zero

3. Composition / Information on Ingredients

Components CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
Sodium dichloroisocyanurate 2893-78-9	33.3	Not Established	Not Established
Citric acid 77-92-9	35.5	10 mg/m3 total dust	15 mg/m3 total dust
Inerts	31.2		

The specific chemical identities have been withheld as trade secrets.

4. First-aid Measures

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 the eye. Immediately call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, call a doctor for treatment advice.

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

Ingestion: Call poison control center or doctor immediately for treatment advice. Drink plenty of water in small gulps. 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.

**Most Important Symptoms,
Acute and Delayed:** Causes serious eye damage. Causes skin irritation. May cause respiratory irritation. Harmful if inhaled, swallowed, or in contact with skin.

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Immediate Medical Attention Required: If in eyes, immediately call a poison center or doctor. Otherwise, get medical attention if you feel unwell.

5. Fire-fighting Measures

Flash point: Not applicable

Auto-ignition temperature: Not applicable

Suitable Extinguishing Media: Extinguish with large amounts of water.

Unsuitable Extinguishing Media: For safety reasons DO NOT use dry chemical extinguisher containing ammonia compounds, dry chemicals, carbon dioxide, halogenated agents.

Special Protective Equipment and Precautions for Fire-fighters: As in any fire, wear self-contained breathing apparatus with pressure demand (MSHA/NIOSH approved or equivalent) and full protection clothing. Use water spray to cool fire exposed containers.

Specific Hazards Arising From the Chemical: When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, chlorine, and carbon monoxide.

6. Accidental Release Measures

Personal Precautions: For small spills in well ventilated areas wear respiratory protection and wear clothing, chemical resistant gloves, chemical resistant footwear, and chemical resistant headgear for overhead exposure.

For cleanup 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 the entire body to prevent personal contact with the material.

Methods for Cleaning Up: If spill material is still dry, do not put water directly on this product as a gas evolution may occur. 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.

CAUTION: Do not use floor sweeping compounds.

7. Handling and Storage

Handling: Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

Storage: Prevent formation of dust. Keep container tightly closed when not in use. Protect from atmospheric moisture and water. Store in a cool, dry, well-ventilated area from heat sources.

8. Exposure Controls and Personal Protection

Exposure Limits – DUST LIMITS FOR AIR CONTAMINANTS (OSHA)
Particulates not otherwise regulated – total dust – TWA 15 mg/m³

LIMITS FOR AIR CONTAMINANTS (OSHA)

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Particulates not otherwise regulated – Respirable fraction – TWA 5 mg/m³

LIMITS FOR AIR CONTAMINANTS (ACGIH)

Particulates (insoluble or poorly soluble) respirable particles – TWA 3 mg/m³

LIMITS FOR AIR CONTAMINANTS (ACGIH)

Particulates (insoluble or poorly soluble inhalable particles– TWA 10 mg/m³

Appropriate Engineering Controls:

Set up ventilation to effectively remove and prevent buildup of any dust generated from the handling of this product.

Personal protective equipment:

- **Respiratory protection:** If ventilation is not sufficient to effectively prevent build up of dust, appropriate NIOSH/OSHA respiratory protection must be provided.
 - **Hand protection:** Wear chemical resistant gloves, such as rubber, neoprene, or nitrile.
 - **Eye protection:** Use chemical safety glasses and face shield to avoid eye contact.
 - **Skin and body protection:** Prevent contact with skin & clothing by using protective garments.
- Hygiene measures:** Flowing water source should be available. Avoid contact with skin, eyes, and clothing. Do not inhale dust. Remove soiled or soaked clothing immediately.

9. Physical and Chemical Properties

Appearance:	White granular solid
Odor:	Chlorine like bleach
Odor threshold:	Not available
Melting point / range:	Not available
Boiling point / range:	Not available
Flash point:	Not available
Evaporation rate:	Not available
Flammability:	Not available
Vapor pressure:	Not available
Vapor density:	Granular (tap) 1.05 g/ml (pour) 0.958 g/ml
Solubility in water:	Not available
Specific gravity:	>1
pH:	4.75 (25°C)
Flammability limits:	Not available
Partition coefficient:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available

10. Stability and Reactivity

Reactivity: Not reactive under normal conditions.

Chemical stability: Stable under normal conditions.

Incompatible materials: Organic materials; combustible materials; ammonia; ammonium compounds; Alkali. Oxidizing agents; reducing agents; acids. Strong bases, alkali metals,

Product Name: FROG® Jump Start
Revision Date: October 1, 2016
Supersedes: Rev 2, 05/20/2015

Revision: 3

metallic nitrates, oxides of sulfur and potassium tartrate.

Conditions to avoid: Avoid conditions that favor the formation of excessive dust. Avoid excessive heat and sources of ignition. Avoid conditions of moisture.

Hazardous decomposition products: Nitrogen. HCl gas. Chlorine gas. Isocyanic acid. Metal oxide. Nitrogen trichloride. Carbon oxides.

Possibility of hazardous reactions: Will not occur

11. Toxicological Information

No information available.

12. Ecological Information

Adverse effects: Toxic to fish and aquatic life forms. Do not dispose by drainage or into lakes, ponds or public water.

13. Disposal Considerations

Waste disposal: Observe all federal, state, and local regulations. The responsibility for proper waste disposal is with the owner of the waste.

14. Transportation Information

US DOT: Class: 5.1 – Oxidizing substances
Packing Group: II
Label: OXIDIZER (5.1)
UN/NA number: UN2465
Proper shipping name: Dichloroisocyanurate acid, dry, mixture

Transport IMDG: Class: 5.1 – Oxidizing substances
Packing Group: II
UN number: UN2465
Proper shipping name: Dichloroisocyanurate acid, dry, mixture
EmS: F-A+S-Q
Label: OXIDIZING AGENT (5.1)
Marine pollutant mark: Symbol “fish and tree”

Transport ICAO/IATA: Class: 5.1
Packing Group: II
UN number: UN2465
Proper shipping name: Dichloroisocyanurate acid, dry, mixture
Label: OXIDIZER (5.1)

15. Regulatory Information

US Federal Regulations:

EPA FIFRA Information: This chemical is a pesticide product registered by the Environmental

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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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER

Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. May be fatal if inhaled. Do not breathe dust or vapors. Irritating to nose and throat. Do not get in eyes, on skin or on clothing. Wear goggles or face shield, protective clothing and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the restroom. Remove and wash contaminated clothing before reuse.

–Toxic Substances Control Act (TSCA): Hazardous Component(s) subject to reporting on the TSCA List.

–HMIS Classification:
Health = 3
Flammability = 1
Reactivity = 0
PPE = F

–NFPA Rating:
Health = 3
Fire Hazard = 1
Reactivity = 0

– WHMIS hazard class: Hazardous Components(s) subject to WHMIS Ingredient Disclosure

16. Other information

Date of preparation: October 1, 2016

Details of change from previous version:

- Updated Corporate Logo

The information in this Safety Data Sheet should be provided to all who use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations and management, and for persons working with or handling this product. Additionally, if this Material Safety Data Sheet is more than three years old you should contact King Technology to make certain that this sheet is current.

Although the information and recommendations set forth herein (hereinafter “information”) are presented in good faith and believed to be correct as of the date hereof, King Technology makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use.

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Safety Data Sheet

Product Name: FROG® Jump Start
Revision Date: October 1, 2016
Supersedes: Rev 2, 05/20/2015

Revision: 3

Prepared by: King Technology, Inc.
530 11th Ave S
Hopkins, MN 55343 USA
Phone (952) 933-6118

End of safety data sheet

mineral buddies

Specifically Designed for Mineral Treated Spas

SAFETY DATA SHEET

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

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

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 : < 0.0000017 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.

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

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

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

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

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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

Other regulations

SARA 313 Regulated Chemical(s)

PA Right to Know Regulated Chemical(s)

NJ Right to Know Regulated Chemical(s)

Title III hazard Classification

California Prop. 65 :

: On the inventory, or in compliance with the inventory

: 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.

: 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.

: Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Dipotassium peroxodisulphate

: 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,

Potassium hydrogensulphate

: Acute Health Hazard: Yes

Chronic Health Hazard: No

Fire: No

Reactivity/Physical hazard: No

Pressure: No

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.

mineral buddies

SAFETY DATA SHEET

Specifically Designed for Mineral Treated Spas

Product name Mineral Buddies™ pH & Alk Up
Revision date 10-10-16

Section 1 Identification

Product ID: pH Plus
Chemical Name: Sodium Carbonate, Anhydrous
Synonyms: Sodium carbonate; Carbonic acid, disodium salt; Disodium carbonate
Chemical Formula: Na_2CO_3
CAS Number: 497-19-8
Product Use: Raises pH, Prevents Corrosion

Supplier: Oreq Corporation
42306 Remington Ave.
Temecula, CA 92590
951-296-5076

Distributor: Carefree Stuff
5220 4th Street, Ste 2
Irwindale, CA 91702
626-337-0611

Emergency Telephone# Chemtrec: 1-800-424-9300

Section 2 Hazards identification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 FR 1910.1200)

GHS CLASSIFICATION: Serious eye damage/eye irritation- Category 2

GHS SIGNAL WORD: WARNING



HAZARD PICTOGRAMS:

HAZARD STATEMENT(S):

H319 – Causes serious eye irritation

PRECAUTIONARY STATEMENT(S)- Prevention:

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear eye protection/ face protection

PRECAUTIONARY STATEMENT(S)- Response:

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

May be harmful if swallowed

Section 3 Composition / Information on ingredients

Ingredients

Chemical Name	CAS-No	Weight %
Sodium carbonate	497-19-8	100

Formula Na_2CO_3
Chemical Family Alkali salt

Product name Mineral Buddies™ pH & Alk Up
Revision date 10-10-16

Section 4 First - aid measures

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact Wash off with warm water and soap. Get medical attention if irritation develops and persists. Remove and wash contaminated clothing before re-use.

Inhalation Remove person to fresh air. If signs/symptoms continue, get medical attention.

Ingestion Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed:

Causes serious eye damage / eye irritation.

Indication of immediate medical attention and special treatment needed, if necessary:

Treat symptomatically

Section 5 Fire - fighting measures

Suitable extinguishing media Use extinguishing agent suitable for type of surrounding fire.

Specific Hazards Arising from the Chemical Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous combustion products Fumes of sodium oxide. Carbon oxides (COx)

Explosion Data

Sensitivity to Mechanical Impact Not sensitive.

Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions 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 Avoid dust formation. Sweep up to prevent slipping hazard.

Other For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions Do not flush into surface water or sanitary sewer system.

Methods for containment Prevent large quantities of this product from contacting vegetation or waterways. Cover with plastic sheet to prevent spreading. Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal.

Methods for cleaning up Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal. Dispose of waste as indicated in Section 13.

Section 7 Handling and storage

Handling Use air conveying/mechanical systems for bulk transfer to storage. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected.

Storage Store in original container. Keep in properly labeled containers. Keep containers tightly closed.

Incompatible products Aluminum. Powdered aluminum. Acids

Product name Mineral Buddies™ pH & Alk Up
Revision date 10-10-16

Section 8 Exposure controls / personal protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies Local nuisance dust standards apply.

Appropriate engineering controls

Engineering measures Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear suitable protective clothing. Protective shoes or boots.

Hand Protection Nitrile rubber, Neoprene gloves

Respiratory Protection In case of inadequate ventilation wear respiratory protection.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

General information These recommendations apply to the product as supplied

Section 9 Physical and chemical properties

Appearance Granules
Color White
Physical state Solid
Odor odorless
Odor Threshold not applicable
pH 11.4 (as aqueous solution)
Melting Point/Range 851 °C
Freezing point No information available
Boiling Point/Range not applicable
Flash Point Not combustible
Evaporation rate Not applicable
Flammable (solid, gas) Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes

Flammability Limit in Air

Upper flammability limit: No information available
Lower flammability limit: No information available
Vapor pressure No information available
Vapor density No information available
Density No information available
Specific gravity 2.52
Water solubility 212.5 g/L @ 20 °C
Solubility in other solvents No information available
Partition coefficient: Not applicable
Autoignition Temperature Not combustible
Decomposition Temperature 400 °C

Specifically Designed for Mineral Treated Spas

Product name Mineral Buddies™ pH & Alk Up

Revision date 10-10-16

Section 9 Physical and chemical properties (Continued)

Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing
Molecular Weight	105.99
Bulk density	0.86 - 1.12 g/cm ³ (Dense grades) 0.70 - 0.90 g/cm ³ (Light Grades)
Kst	0 bar m/s

Section 10 Stability and reactivity

Reactivity	None under normal use conditions.
Chemical Stability	Stable. Decomposes by reaction with strong acid.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Aluminium. Powdered aluminum. Acids.
Hazardous Decomposition Products	Sodium oxides. Carbon oxides (CO _x).

Section 11 Toxicological information

Product Information

LD50 Oral	2,800 mg/kg (rat)
LD50 Dermal	> 2,000 mg/kg (rabbit)
LC50 Inhalation	2.3 mg/L (rat)
Eye Contact	Irritating to eyes.
Skin Contact	Non-irritating
Sensitization	Patch test on human volunteers did not demonstrate sensitization properties.

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	No known effect.
Mutagenicity	No information available
Carcinogenicity	Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Product name Mineral Buddies™ pH & Alk Up
Revision date 10-10-16

Section 12 Ecological information

Ecotoxicity

Sodium carbonate (497-19-8)				
Active Ingredient(s)	Duration	Species	Value	Units
Sodium Carbonate	96 h LC50	Bluegill sunfish	300	mg/L
Sodium Carbonate	48 h EC50	Ceriodaphnia	200-227	mg/L

Persistence and degradability Biodegradability does not pertain to inorganic substances. .
Bioaccumulation Does not bioaccumulate.
Mobility Dissociates into ions.
Other adverse effects None known

Section 13 Disposal considerations

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

Section 14 Transport information

DOT Not regulated
IDG Not regulated
ICAO/IATA Not regulated
IMDG/IMO Not regulated

Section 15 Regulatory information

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard YES
Chronic Health Hazard NO
Fire Hazard NO
Sudden Release of Pressure Hazard NO
Reactive Hazard NO

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Product name Mineral Buddies™ pH & Alk Up
Revision date 10-10-16

Section 15 Regulatory information (Continued)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

International Inventories

COMPONENT	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Sodium Carbonate 497-19-8 (100)	X	X	X	X	X	X	X	X

International Regulations

Mexico – Grade

Moderate risk, Grade 2

WHMIS Hazard Class

D2B Toxic materials, Eye irritation

Class E: Corrosive to aluminum. Not corrosive to animal skin or carbon steel.

Section 16 Other information

NFPA	Health Hazard 2	Flammability 0	Stability 0	Special Hazards -
HMIS	Health Hazard 2	Flammability 0	Stability 0	Special Protection X

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

DATE OF PREPARATION

5-15-15

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 **Mineral Buddies™ pH & Alk Down**
Revision date **10-10-16**

Section 1 Identification

Product ID: pH & Alk Down
Synonyms: Sodium bisulfate, anhydrous.
Nitrate cake, GBS, Sodium hydrogen sulphate
Product Use: **Lowers pH, Prevents Scaling**

Supplier: Oreg Corporation
42306 Remington Ave.
Temecula, CA 92590
951-296-5076

Distributor: Carefree Stuff
5220 4th Street, Ste 2
Irwindale, CA 91702
626-337-0611

Emergency Phone# **CHEMTREC, U.S.: 1-800-424-9300**

Section 2 Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture: SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements
Hazard pictograms:



Signal word : Danger
Hazard statements : H318 - Causes serious eye damage.

Precautionary statements

Prevention : P280 - Wear eye or face protection.
P264 - Wash hands thoroughly after handling.
Response : P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or physician.
Storage : Not applicable.
Disposal : Not applicable.
Hazards not otherwise Classified : None known.

Section 3 Composition / Information on ingredients

United States - Mexico

Name	%	CAS number
Sodium bisulfate	>90	7681-38-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 4 First - aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. If redness or irritation persists, get prompt 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.
- 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.
- 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Inhalation of dust may irritate nose, throat and/or lungs.
- Skin contact** : Prolonged exposure may cause skin irritation.
- Ingestion** : Small amounts (tablespoonful) swallowed are not likely to cause injury; however, swallowing large amounts may irritate or burn digestive tract.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur if repeated exposure
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 5 Fire - fighting measures

Extinguishing media	
Suitable Extinguishing Media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable Extinguishing Media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: Sulfur oxides
Special protective actions for fire-fighters	: No special measures are required.
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, protective equipment and emergency procedures

For non-emergency personnel	: Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
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 and materials for containment and cleaning up

Small Spill	: Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large Spill	: 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. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 7 Handling and Storage

Precautions for safe handling

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

Advice on general Occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, Including any incompatibilities : 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

Control parameters

Occupational exposure limits

None

Mexico

None

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

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.

Eye/face protection : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.

Skin protection

Hand protection : Use gloves appropriate for work or task being performed. Recommended: Rubber gloves.

Body protection : Cotton-blend coveralls

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : In dusty atmospheres (>10 mg/m³), use a NIOSH-approved dust respirator.

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 9 Physical and chemical properties

Appearance

Physical state : Dry (Anhydrous) crystalline solid spherical shape beads.
Color : Off-white.
Odor : Fresh to pungent.
Odor Threshold : Not available
pH : <1 [Conc. (% w/w): 5%]
Boiling point : Not available.
Flash point : Not available.
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive (flammable) limits : Not available.
Vapor pressure : Not available.
Vapor density : Not available.
Relative density : 1.28
Solubility : Partially soluble in the following materials: cold water and hot water.
Viscosity : Not available.
Volatility : Not available.

Section 10 Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.
Chemical stability : The product is stable.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
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.

Section 11 Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium bisulfate	LD50 Oral	Rat	2800 mg/kg	-

Irritation/Corrosion -

There is no data available

Sensitization -

There is no data available

Carcinogenicity -

There is no data available

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 11 Toxicological information (Continued)

Specific target organ toxicity (single exposure) - There is no data available

Specific target organ toxicity (repeated exposure) - There is no data available

Aspiration hazard - There is no data available

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye damage.

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

Skin contact : Prolonged exposure may cause skin irritation.

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

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur if repeated exposure

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards

Potential chronic health effects

General : No known significant effects or critical hazards.

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.

Product name Mineral Buddies™ pH & Alk Down
Revision date 10-10-16

Section 11 Toxicological information (Continued)

Acute toxicity estimates

Route	ATE value
Oral	3080.3 mg/kg

Section 12 Ecological information

Toxicity : There is no data available.
Persistence and degradability : There is no data available.
Bioaccumulative potential : There is no data available.

Mobility in soil
Soil/water partition coefficient (K_{oc}) : There is no data available.

Other adverse 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.

Section 13 Disposal considerations

Disposal Methods : 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.

Section 14 Transport information

	DOT/MEX Classification	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
UN proper Shipping name	-	-	-
Transport Hazard class	-	-	-
Packing group	-	-	-
Environmental hazards	No	No	No
Additional information	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15 Regulatory information

U.S. Federal regulations : **TSCA 8 (a) CDR Exempt Partial exemption:** Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

mineral buddies

SAFETY DATA SHEET

Specifically Designed for Mineral Treated Spas

Product name Mineral Buddies™ pH & Alk Down

Revision date 10-10-16

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

Clean Air Act Section 602 : Not Listed
Class I Substances

Clean Air Act Section 602 : Not Listed
Class II Substances

DEA List I Chemicals : Not Listed
(Precursor Chemicals)

DEA List II Chemicals : Not Listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ: :Not applicable

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire Hazard	Sudden Release of Pressure	Reactive	Immediate (acute) Health hazard	Delayed (chronic) Health hazard
Sodium Bisulfate	>90	No.	No.	No.	Yes.	No.

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.

Mexico

Classification : Health Flammability Reactivity
1 0 0

Section 16 Other information

DATE OF PREPARATION

5-15-2015

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Product name **Mineral Buddies™ Calcium Up**

Revision date **10-10-16**

Section 1 Identification

Product ID: **Calcium Up**

Chemical Name: Calcium Chloride
Synonyms: Calcium Chloride Flake
CAS Number: 10043-52-4

Product Use: **Raises Calcium, Prevents Corrosion**

Supplier: Oreq Corporation
42306 Remington Ave.
Temecula, CA 92590
951-296-5076

Distributor: Carefree Stuff
5220 4th Street, Ste 2
Irwindale, CA 91702
626-337-0611

Emergency Phone# – CHEMTREC: 800-424-9300

Section 2 Hazards identification

GHS CLASSIFICATION: Acute Oral Toxicity Category 4
Serious Eye Damage/Eye Irritation Category 2

GHS SIGNAL WORD: **WARNING**

HAZARD PICTOGRAMS:



Appearance: White

Physical State: Flake

Odor: Odorless

Hazard Statement(s)

H302 Harmful if swallowed
H316 Causes mild skin irritation
H319 Causes serious eye irritation

Precautionary Statement(s):

P264: Wash ... thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Product name Mineral Buddies™ Calcium Up

Revision date 10-10-16

Section 3 Composition / Information on ingredients

Chemical Name	CAS-No	Weight %
Calcium Chloride	10043-52-4	74-100
Water	7732-18-5	0-26
Sodium Chloride	7647-14-5	< 3
Potassium Chloride	7447-40-7	< 3
Magnesium Chloride	7786-30-3	< 0.5

Section 4 First - aid measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Obtain medical attention if irritation persists.

Skin Contact: Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

Inhalation: Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell Rinse mouth.

Notes to Physician: Treat symptomatically and supportively.

Section 5 Fire - fighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

None

Specific Hazards Arising from the Chemical

Avoid generating dust, under certain conditions may cause respiratory irritation. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact

None

Sensitivity to Static Discharge

None

Protective Equipment and Precautions 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:

Avoid contact with the skin and the eyes. Use personal protective equipment. Avoid dust formation.

Environmental Precautions:

Prevent large spills from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12,

Product name Mineral Buddies™ Calcium Up

Revision date 10-10-16

Section 6 Accidental release measures (Continued)

Ecological Information.

Methods and Materials for Containment and Cleaning Up:

Small and large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. Flush residue with plenty of water. See Section 13, Disposal considerations, for additional information.

Section 7 Handling and storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Wash clothing before reuse. Always use cool water when dissolving Calcium Chloride. Heat evolved is significant.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store below melting point.

Incompatible Products: Zinc, Bromine tri-fluoride, Methyl vinyl ether

Section 8 Exposure controls / personal protection

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Calcium Chloride 10043-52-4	ACGIH - (TLV-TWA) Guideline for nuisance particulate (inhalable particulate): 10 mg/m3	OSHA (PEL-TWA) - Z-3 Mineral Dusts, Inert or Nuisance dusts, (respirable fraction): 5 mg/m3	-

Engineering Measures Provide local exhaust ventilations system. When there is a potential for exposure, an emergency eyewash and safety shower should be provided within the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with non-flexible side shields or chemical goggles

Skin and Body Protection **Hands and Feet:** Wear appropriate protective non-leather protective gloves and boots. Chemical protective gloves and boots such as PVC, Neoprene, or Heavy Nitrile are recommended. Leather products do not offer adequate protection and will dehydrate with resultant shrinkage and possible destruction.
Body: Wear appropriate protective, impervious clothing.

Respiratory Protection A respirator is not indicated under normal operating conditions. Use of a NIOSH - approved respirator (N95 or greater) should be based on the presence of nuisance dusts.

Hygiene Measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

Product name Mineral Buddies™ Calcium Up

Revision date 10-10-16

Section 9 Physical and chemical properties

Physical State: Flake

Appearance: white

Odor: odorless

pH: 8-10 100 g/l aq.sol.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: > 1600 deg C @ 760.0

Freezing/Melting Point: 782 deg C

Decomposition Temperature: Not available.

Solubility: 740 g/l water (20°C)

Specific Gravity/Density: Not available.

Molecular Formula: CaCl₂

Molecular Weight: 110.99

Section 10 Stability and reactivity

Chemical Stability: Stable.

Conditions to Avoid: Dust generation, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials: Zinc, Bromine tri-fluoride, Methyl vinyl ether

Hazardous Decomposition Products: Hydrogen chloride, calcium oxide.

Hazardous Polymerization: Will not occur.

Section 11 Toxicological information

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.

Eye Contact Irritating to eyes.

Skin Contact May cause irritation.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium Chloride	= 1000 mg/kg (Rat)	= 2630 mg/kg (Rat)	-
Potassium Chloride	= 2600 mg/kg (Rat)	-	-
Sodium chloride	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m3 (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms May cause irritation to the respiratory system.

Delayed and immediate effects and also chronic effects from short and long term exposure

Eye damage/irritation Irritating to eyes.

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Contains no ingredients above reportable quantities listed as a carcinogen.

Reproductive Toxicity No information available.

STOT - single exposure No information available.

Product name Mineral Buddies™ Calcium Up

Revision date 10-10-16

Section 11 Toxicological information (Continued)

STOT - repeated exposure No information available.
Chronic Toxicity Avoid repeated exposure.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product

Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral 979 mg/kg; Acute toxicity estimate

LD50 Dermal 2630 mg/kg; Acute toxicity estimate

Section 12 Ecological information

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Calcium Chloride 10043-52-4		LC50 96 h: = 10650 mg/L static (Lepomis macrochirus)		LC50 48 h: = 2400 mg/L (Daphnia magna)
Potassium Chloride 7447-40-7	EC50 72 h: = 2500 mg/L (Desmodesmus subspicatus)	LC50 96 h: 750-1020 mg/L static (Pimephales promelas) LC50 96 h: = 1060 mg/L static (Lepomis macrochirus)		EC50 48 h: = 825 mg/L (Daphnia magna) EC50 48 h: = 83 mg/L Static (Daphnia magna)
Sodium chloride 7647-14-5		LC50 96 h: 5560 - 6080 mg/L flow-through (Lepomis macrochirus) LC50 96 h: = 12946 mg/L static (Lepomis macrochirus) LC50 96 h: 6020 - 7070 mg/L static (Pimephales promelas) LC50 96 h: = 7050 mg/L semi-static (Pimephales promelas) LC50 96 h: 6420 - 6700 mg/L static (Pimephales promelas) LC50 96 h: 4747 - 7824 mg/L flow-through (Oncorhynchus mykiss)		EC50 48 h: = 1000 mg/L (Daphnia magna) EC50 48 h: 340.7 - 469.2 mg/L Static (Daphnia magna)

Section 13 Disposal considerations

Waste Disposal Methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Do not re-use empty containers.

Section 14 Transport information

US DOT – Not Regulated
TDG – Not Regulated
MEX – Not Regulated

Product name Mineral Buddies™ Calcium Up

Revision date 10-10-16

Section 15 Regulatory information

International Inventories

TSCA	Complies
DSL	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Section 16 Other information

HMIS Rating

Health hazard: 1
Flammability: 0
Physical Hazard 1

NEPA Rating

Health hazard: 1
Fire Hazard: 0
Reactivity Hazard: 1

DATE OF PREPARATION

10-10-16

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