



Safety Data Sheet

Product Name: FROG® @ease® Mineral Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

1. Identification

Product Identifier: FROG® @ease® 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.



Safety Data Sheet

Product Name: FROG® @ease® Mineral Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

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.

Product Name: FROG® @ease® Mineral Cartridge
Revision Date: October 1, 2016
Supersedes: Rev 0, 05/21/2015

Revision: 1

– **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.



Safety Data Sheet

Product Name: FROG® @ease® Mineral Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

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

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

1. Identification

Product Identifier: FROG® @ease® SmartChlor® Cartridge
Other Means of Identification: 1,3-dichloro-5,5-dimethylhydantoin
Recommended Use: Spa and hot tub sanitizer
Supplier: King Technology, Inc.
530 11th Ave S, Hopkins, MN USA
Phone (952) 933-6118
EPA Registration Number: 53735-14
Emergency Telephone: Chemtrec (800) 424-9300

2. Hazards identification

GHS Classification: Eye Damage: Category 1
Skin Irritation: Category 1
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 severe skin burns and eye damage
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.
Do not breathe dusts or mists.
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

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

lenses, if present and easy to do. Continue rinsing.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 Immediately call a poison center or doctor.
 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
1,3-dichloro-5,5-dimethylhydantoin 118-52-5	81.1	0.2 mg/m ³	0.2 mg/m ³
1,3-dichloro-5-ethyl-5-methylhydantoin 89415-87-2	16.1	NE	NE

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. Immediately 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. Immediately 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 severe skin burns and eye damage. May cause respiratory irritation. Harmful if inhaled, swallowed, or in contact with skin.

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

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

5. Fire-fighting Measures

General hazard: In large fires fueled by other materials, this product may smolder for prolonged periods emitting a dense black smoke. Any spilled material should be considered contaminated. Neutralize to a non-oxidizing material for safe disposal. Material which appears undamaged except for being damp on the outside should be opened and inspected immediately. If the material is damp, it should be neutralized to a non-oxidizing material for safe disposal.

Suitable Extinguishing Media: In case of fire or smoke, call the fire department. Do not attempt to extinguish the fire without a self-contained breathing apparatus (SCBA). Do not let the fire burn. Flood with copious amounts of water.

Unsuitable Extinguishing Media: DO NOT use ABC or other dry chemical extinguishers since there is the potential for a violent reaction.

Special Protective Equipment and Precautions for Fire-fighters: Fires fueled by other materials may release hydrogen bromide, bromine, hydrogen chloride or chlorine. Wear self-contained breathing apparatus. Ammonium phosphate (ABC) fire extinguishers should not be used.

6. Accidental Release Measures

Personal Precautions: Using appropriate protective clothing and safety equipment, contain spilled material.

Methods for Cleaning Up: Do not add water to spilled material. Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry containers for disposal. Do not use floor sweeping compounds to clean up spills. Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form. Do not transport wet or damp material. Keep product out of sewers, watersheds and water systems. Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Dispose of according to local, state and federal regulations.

7. Handling and Storage

Handling: STRONG OXIDIZING AGENT: Do not mix with other chemicals. Mix only with water. Never add water to product. Always add product to large quantities of water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood area with large volumes of water.

Storage: Keep this product in original closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment. Do not store above 125 F (52 C).

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

8. Exposure Controls / Personal Protection

Exposure Limits: See Section 3.

Appropriate Engineering Controls: General room ventilation plus local exhaust should be used to minimize exposure to dust/vapors.

Personal protective equipment:

- **Respiratory protection:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
- **Hand protection:** Wear rubber gloves when handling this product. Avoid contact with skin.
- **Eye protection:** Wear goggles or safety glasses with side shields when handling this product.
- **Skin and body protection:** Wear rubber gloves when handling this product. Avoid contact with skin.

Hygiene measures: Remove and wash contaminated clothing before reuse.

Other Precautions: Facilities using or storing this material should be equipped with an eyewash and safety shower.

9. Physical and Chemical Properties

Appearance: White granules
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

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

Incompatible materials: Avoid contact with water on concentrated material in the container. Avoid contact with easily oxidizable material; ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; floor sweeping compounds; calcium hypochlorite; other swimming pool/spa chemicals in their concentrated form; alkalis. Avoid contact with all other chemicals.

Conditions to avoid: High temperature. Poor ventilation. Contamination. Moisture / high humidity.

Hazardous decomposition products: Hydrogen bromide, bromine, hydrogen chloride, chlorine.

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions.

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

Ecotoxicological Information: This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or their waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

13. Disposal Considerations

Waste disposal: Use or reuse if possible. Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, Contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire. The user of the material has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant local, state, and federal laws and regulations regarding treatment, storage, and disposal of hazardous waste.

Empty container: Do not reuse container. Rinse thoroughly before discarding in trash.

Product Name: FROG® @ease® SmartChlor® Cartridge
Revision Date: October 1, 2016 **Revision:** 1
Supersedes: Rev 0, 05/21/2015

14. Transportation Information

DOT:

– **Proper shipping name:** Oxidizing Solid, N.O.S. (1,3-dichloro-5,5-dimethylhydantoin)
– **Primary hazard class:** 5.1
– **UN/NA Number:** 1479
– **Packing group** II

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:

DANGER

Corrosive. Causes irreversible eye and skin damage. May be fatal if swallowed. Irritating to nose and throat. Avoid breathing dust and fumes. Do not get in eyes, on skin or on clothing. Wear goggles or safety glasses and rubber gloves when handling product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

USA:

– **Sara (311, 312) hazard class:** This product or its components are not listed.
– **CERCLA:** This product or its components are not listed.
– **TSCA Regulatory:** This product or its components are not subject to export notification.
– **TSCA Status:** This product or its components are listed on the TSCA Inventory.
– **OSHA Hazard Comm. Rule:** Product is hazardous by definition of the Hazardous Communication Standard.
– **Clean Water Act:** Not listed
– **FIFRA:** This product is a registered pesticide.
– **SDWA:** Not listed
– **Clean Air Act:** 40 CFR Part 68 – Not listed

State Regulations: Proposition 65 statement: This product or its components are not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

16. Other information

Date of preparation: October 1, 2016

Details of change from previous version:

- Updated Corporate Logo

Factors pertaining to certain conditions of storage, handling, and/or use of this product may involve other or additional safety considerations. 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



Safety Data Sheet

Product Name:	FROG® @ease® SmartChlor® Cartridge
Revision Date:	October 1, 2016 Revision: 1
Supersedes:	Rev 0, 05/21/2015

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

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

Revision: 3

1. Identification

Product Identifier: FROG® Jump Start

Other Means of Identification: Sodium dichloroisocyanurate ; NaDCCA Dichlor; Sodium dichloro-s-triazinetrione; 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.

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

Revision: 3

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.

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

Revision: 3

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)

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

Revision: 3

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

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

Revision: 3

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.

In no event will King Technology be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. Factors pertaining to certain conditions of storage, handling, and/or use of this product may involve other or additional safety considerations.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANT ABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.



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

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.

Section 1 Product and Company Identification

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 91702
626-337-0611

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

Section 2 Hazards Identification

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.

mineral buddies

Specifically Designed for Mineral Treated Spas

SAFETY DATA SHEET

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 3 Composition / Information on Ingredients

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.

Section 4 First Aid Measures

- 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.

Section 5 Fire Fighting Measures

- Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media:** Carbon dioxide (CO2)

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 5 Fire Fighting Measures (continued)

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.

Section 6 Accidental Release Measures

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.

Section 7 Handling and Storage

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

Section 8 Exposure Controls / Personal Protection

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.

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 8 Exposure Controls / Personal Protection (continued)

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

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.

Section 9 Physical and Chemical Properties

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
Vapor density: No applicable data available.
Density: No applicable data available.

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 9 Physical and Chemical Properties (continued)

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.

Section 10 Stability and Reactivity

Reactivity: Stable under recommended storage conditions.
Stability: Stable under normal conditions.
Possibility of hazardous reactions No applicable data available.
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

Section 11 Toxicological Information

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

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 11 Toxicological Information (continued)

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

Information given is based on data obtained from similar substances.

Repeated dose toxicity: 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.

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 12 Ecological Information

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-)]dihydroxypentamagnesium

96 h LC50:	Pimephales promelas (fathead minnow) 2,120 mg/l Information given is based on data obtained from similar substances.
72 h EC50:	Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test Guideline 201 Information given is based on data obtained from similar substances.
72 h NOEC:	Desmodesmus subspicatus (green algae) 100 mg/l OECD Test Guideline 201 Information given is based on data obtained from similar substances.
48 h EC50:	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.

Section 13 Disposal Considerations

Waste Disposal Methods: Dispose of in accordance with local regulations.

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

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 14 Transport Information

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

Section 15 Regulatory Information

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

Product name Mineral Buddies™ Shock Treatment

Revision date 10-10-16

Section 16 Additional Information

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

MANUFACTURER DISCLAIMER: 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.

DATE OF PREPARATION
10-10-2016
OREQ CORPORATION