



**SAFETY DATA SHEET**  
**Silver Mineral Formula**

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

**1. Identification**

**Product identifier**

**Product name** Silver Mineral Formula  
**Chemical name** Calcium carbonate with silver chloride  
**Synonyms; trade names** Flippin' FROG XL® Mineral Cartridge  
**EPA Registration Number** 53735-11

**Recommended use of the chemical and restrictions on use**

**Application** Pool water conditioner  
**Uses advised against** Use only for intended applications. Not intended for direct application to humans or animals.

**Details of the supplier of the safety data sheet**

**Supplier** King Technology, Inc.  
530 11th Ave S  
Hopkins, MN 55343  
United States  
1+ (952) 933-6118  
sdsinfo@kingtechnology.com

**Emergency telephone number**

**Emergency telephone** CHEMTREC 800-424-9300 (24 hours)

**2. Hazard(s) identification**

**Classification of the substance or mixture**

**OSHA Regulatory Status** This Product is Not Hazardous under the OSHA Hazard Communication Standard. The below classification is non-mandatory under the OSHA Hazard Communication Standard. The environmental classification is according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 3rd revised edition, 2009.

**Physical hazards** Not Classified  
**Health hazards** Not Classified  
**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

**Label elements**

**Hazard symbols**



**Signal word** Warning  
**Hazard statements** H410 Very toxic to aquatic life with long lasting effects.

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**Precautionary statements** P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents/ container in accordance with national regulations.

### Other hazards

**Other** No additional hazards known.  
  
«46»% of the mixture consists of ingredient(s) of unknown acute toxicity.

### 3. Composition/information on ingredients

#### Mixtures

<b>Calcium carbonate</b> <span style="float: right;">&gt; 98%</span> CAS number: 471-34-1
<b>Classification</b> Not Classified
<b>Silver chloride</b> <span style="float: right;">&lt;1%</span> CAS number: 7783-90-6 M factor (Acute) = 1000                      M factor (Chronic) = 100
<b>Classification</b> Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

**Composition comments** The exact percentage/concentration is withheld as a trade secret in accordance with 29 CFR 1910.1200.

### 4. First-aid measures

#### Description of first aid measures

**General information** If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

**Inhalation** Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

**Ingestion** Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

**Skin Contact** Rinse with water.

**Eye contact** Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

**Protection of first aiders** First aid personnel should wear appropriate protective equipment during any rescue.

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

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** No specific symptoms known.

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<b>Ingestion</b>	No specific symptoms known.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	No specific symptoms known. May be slightly irritating to eyes.

### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically.
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## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

### Special hazards arising from the substance or mixture

**Specific hazards** None known.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material.

### Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

### Methods and material for containment and cleaning up

**Methods for cleaning up** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

**Reference to other sections** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

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### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

#### Conditions for safe storage, including any incompatibilities

**Storage precautions** Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

**Storage class** Miscellaneous hazardous material storage.

#### Specific end uses(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.

### 8. Exposure controls/Personal protection

#### Control parameters

##### Occupational exposure limits

Calcium carbonate (CAS 471-34-1)

OSHA Permissible Exposure Limit (PEL): TWA 15 mg/m<sup>3</sup> (total dust)

OSHA Permissible Exposure Limit (PEL): TWA 5 mg/m<sup>3</sup> (respirable dust)

NIOSH Recommended exposure limit (REL): TWA 10 mg/m<sup>3</sup> (total dust)

NIOSH Recommended exposure limit (REL): TWA 5 mg/m<sup>3</sup> (respirable dust)

Silver chloride (CAS 7783-90-6)

OSHA Permissible Exposure Limit (PEL): TWA 0.01 mg/m<sup>3</sup> (Silver soluble compounds, as Ag)

NIOSH Immediately Dangerous to Life or Health (IDLH): TWA 10 mg/m<sup>3</sup> (Silver soluble compounds, as Ag)

NIOSH Recommended Exposure Limit (REL): TWA 0.01 mg/m<sup>3</sup> (Silver soluble compounds, as Ag)

ACGIH Threshold Limit Value (TLV): 0.1 mg/m<sup>3</sup> (Silver soluble compounds, as Ag)

#### Exposure controls

**Appropriate engineering controls** Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection** No specific eye protection required during normal use.

**Hand protection** No specific hand protection recommended. Avoid contact with skin.

**Other skin and body protection** Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Hygiene measures** Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

**Respiratory protection** Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

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**Environmental exposure controls** Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Granules.
<b>Color</b>	White.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	No information available.
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	No information available.
<b>Other flammability</b>	No information available.
<b>Vapor pressure</b>	No information available.
<b>Vapor density</b>	No information available.
<b>Relative density</b>	No information available.
<b>Bulk density</b>	No information available.
<b>Solubility(ies)</b>	No information available.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	No information available.

### 10. Stability and reactivity

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.

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<b>Materials to avoid</b>	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

##### Respiratory sensitization

**Respiratory sensitization** Based on available data the classification criteria are not met.

##### Skin sensitization

**Skin sensitization** Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

##### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

##### **IARC carcinogenicity**

None of the ingredients are listed or exempt.

##### **NTP carcinogenicity**

None of the ingredients are listed.

##### **OSHA Carcinogenicity**

None of the ingredients are listed.

##### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

##### **Reproductive toxicity - development**

Based on available data the classification criteria are not met.

##### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

##### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

##### Aspiration hazard

**Aspiration hazard** Not relevant. Solid.

##### **General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

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<b>Inhalation</b>	No specific symptoms known.
<b>Ingestion</b>	No specific symptoms known.
<b>Skin Contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	No specific symptoms known.
<b>Route of exposure</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target Organs</b>	No specific target organs known.

### 12. Ecological information

<b>Ecotoxicity</b>	The product contains a substance which is very toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
<b>Toxicity</b>	Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<b><u>Persistence and degradability</u></b>	
<b>Persistence and degradability</b>	The degradability of the product is not known.
<b><u>Bioaccumulative potential</u></b>	
<b>Bio-Accumulative Potential</b>	No data available on bioaccumulation.
<b>Partition coefficient</b>	No information available.
<b><u>Mobility in soil</u></b>	
<b>Mobility</b>	No data available.
<b><u>Other adverse effects</u></b>	
<b>Other adverse effects</b>	None known.

### 13. Disposal considerations

#### Waste treatment methods

<b>General information</b>	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
<b>Disposal methods</b>	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### 14. Transport information

<b>General</b>	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).
<b>DOT transport notes</b>	As supplied, the product is not covered by domestic regulations on the transport of dangerous goods under DOT 49 CFR Part 172.101.
<b><u>UN Number</u></b>	

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**UN No. (DOT)** Not applicable.

**UN proper shipping name**

**Proper shipping name (DOT)** Not applicable.

**Transport hazard class(es)**

**DOT transport labels**

No transport warning sign required.

**Packing group**

**DOT packing group** Not applicable.

**Environmental hazards**

**Environmentally Hazardous Substance**

No.

**Special precautions for user**

**DOT reportable quantity** Not applicable.

**DOT TIH Zone** Not applicable.

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

### 15. Regulatory information

**United States FIFRA -  
Pesticide Labeling**

This product is a US EPA FIFRA registered pesticide (EPA Reg. No.: 53735-11) and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for an OSHA GHS SDS. The following is the hazard information as required on the FIFRA label:

**Signal Word** CAUTION

**US Federal Regulations**

**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

Not applicable.

**CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

The following ingredients are listed:

Silver compounds  
No RQ Assigned

**SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

Not applicable.

**SARA 313 Emission Reporting**

Silver compounds

*Silver chloride*

None of the ingredients are listed or exempt.

**CAA Accidental Release Prevention**

Not applicable.



## Silver Mineral Formula

### **FDA - Essential Chemical**

Not applicable.

### **FDA - Precursor Chemical**

Not applicable.

### **SARA (311/312) Hazard Categories**

Not applicable.

### **OSHA Highly Hazardous Chemicals**

Not applicable.

**US Clean Water Act - Section 307(a)(1) Toxic Pollutants** The following ingredients are listed: Silver compounds

### **US State Regulations**

#### **California Proposition 65 Carcinogens and Reproductive Toxins**

None of the ingredients are listed.

#### **California Air Toxics "Hot Spots" (A-I)**

Not applicable.

#### **California Air Toxics "Hot Spots" (A-II)**

Not applicable.

#### **California Directors List of Hazardous Substances**

The following ingredients are listed:  
Silver compounds

**California Hazardous Waste Control Law** The following ingredients are listed: Silver compounds

#### **Massachusetts "Right To Know" List**

Not applicable.

#### **Rhode Island "Right To Know" List**

Not applicable.

#### **Minnesota "Right To Know" List**

Not applicable.

#### **New Jersey "Right To Know" List**

Silver compounds

#### **Pennsylvania "Right To Know" List**

Silver compounds

**Colorado Hazardous Waste Regulation Appendix VIII - Hazardous Waste Constituents** The following ingredients are listed: Silver compounds

**Louisiana Reportable Quantity List for Pollutants** The following ingredients are listed: Silver compounds  
No RQ Assigned

**New Jersey Discharge Tax List of Hazardous Substances** The following ingredients are listed: Silver compounds

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### Massachusetts Oil and Hazardous Materials List

The following ingredients are listed: Silver compounds  
RQ: (50 lbs)

### Inventories

#### EU - EINECS/ELINCS

Some of the ingredients are listed or exempt.

#### Canada - DSL/NDSL

All the ingredients are listed or exempt.

#### US - TSCA

All the ingredients are listed or exempt.

*Calcium carbonate*

#### US - TSCA 12(b) Export Notification

Not applicable.

#### Australia - AICS

All the ingredients are listed or exempt.

#### Japan - ENCS

All the ingredients are listed or exempt.

#### Korea - KECI

All the ingredients are listed or exempt.

#### China - IECSC

All the ingredients are listed or exempt.

#### Philippines - PICCS

All the ingredients are listed or exempt.

#### New Zealand - NZIOC

All the ingredients are listed or exempt.

#### Taiwan - TCSI

All the ingredients are listed or exempt.

### 16. Other information

#### Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.

ICAO: Technical instructions for the safe transport of dangerous goods by air.

IMDG: International maritime dangerous goods.

CAS: Chemical abstracts service.

ATE: Acute toxicity estimate.

LC<sub>50</sub>: Lethal concentration to 50 % of a test population.

LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).

EC<sub>50</sub>: 50% of maximal effective concentration.

PBT: Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

#### Classification abbreviations and acronyms

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

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**Revision date** 09/15/2021

**Revision** 04

**SDS No.** 4830

**Hazard statements in full**

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

The information provided on the SDS is correct to the best of our knowledge, information, and belief at the date of this publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release, and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.