



Rooted in Science

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade Name Quad K 0-0-45

SDS Date May 26, 2015

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Soil Amendment

Uses Advised Against: To be used only where there is a recognized need. Do not exceed the appropriate dose rates.

1.3 Details of the Supplier of the Substance or Mixture

Manufacturer: Floratine Products Group, Inc.
355 East South Street
Collierville, TN 38017
+1 901-853-2898

1.4 Emergency Telephone Number

Emergency Spill Information 1(800) 424-9300 for US and Canada (CHEMTREC)
+1(703) 527-3887 for International Calls (call CHEMTREC collect)

Other Product Information: cs@floratine.com

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

CLP/GHS Classification (1272/2008): Not hazardous

2.2 Label Elements

No Labeling Required

2.3 Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical Name	CAS Number / EINECS Number / REACH Reg. Number	% (w/w)	EU Classification (67/548/EEC)	CLP/GHS Classification (1272/2008)
Potassium Sulfate	7778-80-5 / 231-915-5	40-90%	Not dangerous	Not hazardous
Potassium Citrate	866-84-2 / 212-755-5	10-60%	Not dangerous	Not hazardous

See Section 16 for full text of GHS and EU Classifications.

SECTION 4: FIRST AID MEASURES**4.1 Description of First Aid Measures****First Aid**

Eye contact: Immediately flush eye with water for at least 15 minutes while lifting the upper and lower lids. Seek medical attention if irritation persists.

Skin contact: Wash with soap and water. Get medical attention if irritation develops.

Inhalation: Remove victim to fresh air. Get medical attention if irritation persists.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If the person is alert, have them rinse their mouth with water and sip one glass of water. Call a poison center or physician for advice. Never give anything by mouth to an unconscious or drowsy person.

See Section 11 for more detailed information on health effects.

4.2 Most important symptoms and effects, both acute and delayed: Dust may cause eye irritation. Prolonged skin contact may cause irritation. Ingestion may cause gastrointestinal irritation with nausea and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention should not be needed unless large amounts are swallowed.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire. Water can be used to cool fire exposed containers

5.2 Special Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: None

Combustion Products: Not combustible

5.3 Advice for Fire-Fighters: Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear appropriate protective equipment. Avoid direct contact with spilled material.

6.2 Environmental Precautions:

Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

6.3 Methods and Material for Containment and Cleaning Up:

Carefully sweep up and place in an appropriate container for use. Avoid creating dust. Wash spill site with water.

6.4 Reference to Other Sections:

Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

SECTION 7: HANDLING and STORAGE
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7.1 Precautions for Safe Handling:

Avoid eye and prolonged skin contact. Use with adequate ventilation. Avoid creating dust. Use reasonable care in handling. Do not eat, drink or smoke while using product. Wash thoroughly with soap and water after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities:

Protect containers from physical damage. Avoid temperatures below 40°F (5°C). Keep containers closed. Empty containers retain product residues. Follow all SDS precautions in handling empty containers. Store away from food and feed.

7.3 Specific end use(s):

Industrial uses: None identified

Professional uses: Soil Amendment

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	Biological Limit Value
Potassium Sulfate	None Established	None Established	None Established	None Established
Potassium Citrate	None Established	None Established	None Established	None Established

8.2 Exposure Controls:

Recommended Monitoring Procedures: None.

Appropriate Engineering Controls: Good outdoor ventilation should be adequate under normal conditions.

Personal Protective Measurers

Eye/face Protection: Chemical goggles recommended to avoid eye contact.

Skin Protection: Impervious clothing is recommended if needed to avoid prolonged/repeated skin contact.

Hands: Impervious gloves are recommended if needed to avoid prolonged/repeated skin contact.

Respiratory Protection: None needed under normal use conditions with adequate ventilation. If dust is generated, an approved particulate respirator can be used. Use respirators in accordance with local and national regulations.

Other protection: Suitable washing facilities should be available in the work area.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES
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9.1 Information on basic Physical and Chemical Properties

Appearance: Dark grayish powder

Odor Threshold: Not applicable

Melting/Freezing Point: 1067°C

Flash Point: None

Lower Flammability Limit: None

Upper Flammability Limit: None

Vapor Density(Air=1): Not applicable

Solubility: Complete

Autoignition Temperature: None

Viscosity: Not established

Oxidizing Properties: None

Molecular Formula: Mixture

Odor: Not available

pH: Not available

Boiling Point: Not applicable

Evaporation Rate: Not available

Vapor Pressure: Not applicable

Relative Density: >1

Octanol/Water Partition Coefficient: Not established

Decomposition Temperature: Not applicable

Explosive Properties: None

Specific Gravity (H₂O= 1): >1

Molecular Weight: Mixture

9.2 Other Information: None available

SECTION 10: STABILITY and REACTIVITY

10.1 Reactivity: Not reactive under normal conditions

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: Avoid generating dust.

10.5 Incompatible Materials: Incompatible with oxidizing agents.

10.6 Hazardous Decomposition Products: Decomposition may produce oxides of carbon, potassium and sulfur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eye Contact: May cause irritation with redness and tearing.

Skin contact: Prolonged skin contact may cause irritation.

Inhalation: Excessive inhalation of mists may cause upper respiratory tract irritation.

Ingestion: Swallowing may cause gastrointestinal effects including nausea and diarrhea

Acute toxicity:

Potassium Sulfate: Oral rat LD50 6600 mg/kg; Dermal rat LD50 >2000 mg/kg

Skin corrosion/irritation: Potassium sulfate is not irritating to rabbit skin.

Eye damage/ irritation: Potassium sulfate is not irritating to rabbit eyes. Potassium citrate is not irritating to rabbit eyes based on the results of structurally similar chemicals.

Respiratory Irritation: No data available. Expected to cause only temporary irritation.

Respiratory Sensitization: No data available

Skin Sensitization: No data available. Potassium sulfate and potassium citrate are not skin sensitizers based on the results of structurally similar chemicals.

Germ Cell Mutagenicity: Potassium sulfate was negative in the AMES test.

Carcinogenicity: No data available. None of the components of this product are listed as carcinogens by IARC or the EU Dangerous Substances Directive.

Reproductive Toxicity: In a reproductive study, rats were administered potassium sulfate for 28 days for males and 54 days for females. NOEL >150 mg/kg for reproductive and developmental toxicity.

Specific Target Organ Toxicity:

Single Exposure: No data available

Repeat Exposure: No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: No data available on the product
Potassium sulfate: 96 hr LC50 Pimephales promelas 680 mg/kg; 48 hr EC50 daphnia magna 720 mg/kg

12.2 Persistence and degradability: Potassium citrate is readily biodegradable (based structurally similar chemical). Biodegradation is not applicable to inorganic substances such potassium sulfate

12.3 Bioaccumulative Potential: The estimated BCF for potassium citrate is 0.5.

12.4 Mobility in Soil: In the soil, product follows natural cycle to provide plant nutrients.

12.5 Results of PVT and vPvB assessment: Not required.

12.6 Other Adverse Effects: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS
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13.1 Waste Treatment Methods:
Dispose in accordance with local/ and national regulations. Not considered hazardous waste according to EU regulations.

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	None	Not Regulated			
IMDG	None	Not Regulated			
IATA/ICAO	None	Not Regulated			

14.6 Special Precautions for User: None

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not determined.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

US Regulations

CERCLA Section 103: The normal application of fertilizers is exempt from CERCLA reporting. If an accidental release occurs, contact Floratine Products Group for information.

SARA Hazard Category (311/312): Acute Health Hazard

SARA 313: Products used in routine agricultural operations and fertilizers held for resale by retailers is excluded from SARA 313 reporting. Contact Floratine Products Group for additional information.

California Proposition 65: This product contains the following substances known to the State of California to cause cancer and/or reproductive harm (birth defects): None known.

International Chemical Inventories

US EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory or exempt.

SECTION 16: OTHER INFORMATIONCLP/GHS Classification and H Phrases for Reference (See Section 3)

None

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information data sheet is to the best of Floratine's knowledge correct as at the date of publication. Neither Floratine, importer or local supplier accepts liability for any loss or damage resulting from reliance on this information. Further information on this product may be obtained from the supplier whose name, address and telephone number will be found on the product container. The information provided herein is offered solely for your consideration, investigation and verification. This information herein is provided by Floratine in good faith as accurate at the time of writing but without guarantee. This information includes information which has been generated by other parties and provided to Floratine and which Floratine has not independently verified. The information provided herein relates only to the specific product designated and may not be valid if the product is used in combination with any other materials or in any process.