KegRiver
PREMIUM SULFUR FERTILIZERS

SAFETY DATA SHEET

Keg River Organics* Keg90S

Issuing Date: 18 June 2015 **Revision Date:** 22 February 2021 **Revision Number:** 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name Keg River Organics* Keg90S

Other means of identification

Synonyms Sulfur-Bentonite, NutraSul 90 Organic, Degradable Sulfur, Granular Sulfur

Recommended use of the chemical and restrictions on use

Recommended Use Plant nutrient fertilizer, soil amendment
Uses advised against No information available

Manufacturer's details

Keg River Chemical Corp.
10350 – 21 Street NW
Edmonton, AB T6P 1W4 Canada
Tel: 780-417-2463
Fax: 780-416-0843

Emergency telephone number

Emergency Telephone Number Canada or USA: 780-417-2463

2. HAZARDS IDENTIFICATION

Classification

Acute Dermal Toxicity	Category 4
Combustible Dust	Category 1
Eye Irritation	Category 2A
Skin Irritation	Category 2

* Meets National Organic Program requirements for organic production.

Signal Word **Warning**

Precautionary Statements

- May form combustible dust concentrations in air if crushed
- May be harmful if swallowed
- May cause skin, eye and respiratory irritation

Appearance: Light Green **Physical State**: Solid **Odor**: No Information Available

3. COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms Sulfur-Bentonite, Keg-90, N-90, Degradable Sulfur

Chemical Name	CAS-No	%
Sulfur	7704-34-9	90
Bentonite Clay	1302-78-9	10
Silica, Quartz*	14808-60-7	< 0.3

* Found in Bentonite Clay – see section 11 for clarification.

4. FIRST AID MEASURES

Description of necessary first-aid instructions

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for 5 minutes. Get medical attention if symptoms occur.

Skin Contact Wash off immediately with soap and plenty of water for 5 minutes. Remove contaminated clothing and shoes.

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

Ingestion Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Most important symptoms/effects, acute and delayed

In Eyes May cause moderate to severe irritation (sore, red, tearing eyes).

Inhaled Repeated or long-term inhalation may lead to respiratory problems (see note in Section 11).

On Skin May cause dermal irritation.

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

Notes to Physician Treat symptomatically.

5. FIRE – FIGHTING MEASURES

Suitable Extinguishing Media
Water spray or fog is preferred. If water not available use dry chemical, Carbon Dioxide or regular foam. Small fires may be smothered with sand.

Unsuitable Extinguishing Media
Do not scatter spilled material with high pressure water streams.

Specific Hazards Arising from the Chemical
Avoid dust formation. Dust suspended in air can be ignited by flames, static electricity or friction spark. Every reasonable step must be taken to minimize dust formation (gentle, infrequent handling, avoid seasonal carryover of inventory). Combustion products include Sulfur dioxide and Hydrogen Sulfide.

Protective Equipment and Precautions for Firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight from a protected location or safe distance (avoid breathing fumes).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Ensure adequate ventilation. Avoid dust formation. Do not get in eyes. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Wash thoroughly after handling.

Environmental Precautions
Do not allow material to contaminate ground water systems.

Methods and materials for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. Avoid airborne dust through dry sweeping or use of compressed air.
Methods for Cleaning Up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Ensure adequate ventilation. Do not breath in dust or get in the eyes. Avoid dust formation in confined areas. Keep away from open flames, hot surfaces and sources of ignition. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Dust tight casings should be equipped with explosion relief vents. Sparkless electrical equipment is recommended.

Conditions for safe storage, including any incompatibilities

Storage Keep in a dry, cool and well-ventilated area, away from heat and ignition sources.

Incompatible Products Incompatible with strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV
Sulfur 7704-34-9	TWA: 10 mg/m^3
Bentonite 1302-78-9	TWA: 1 mg/m^3 respirable fraction
Silica, Quartz 14808-60-7	TWA: 0.025 mg/m^3

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields, or goggles.

Skin and Body Protection Long sleeved clothing, impervious gloves.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. In emergency, wear self-contained breathing apparatus (SCBA).

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Solid **Appearance** Light Green
Odor No information available **Odor Threshold** No information available

Property	Values
pH	No data available
Melting Point/Freezing Point	119 °C/Not applicable (freezing point)
Boiling Point/Boiling Range	444 °C
Flash Point	188 °C
Evaporation rate Flammability (solid, gas)	No data available
Flammability Limits in Air upper flammability limit	1400 gm/m^3
Flammability Limits in Air lower flammability limit	35 gm/m^3
Vapor Pressure	No data available
Vapor Density	No data available

Specific Gravity	2.07
Water Solubility	Insoluble
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition Temperature	232 °C
Decomposition Temperature	No data available
Viscosity	Solid, not applicable
Flammable Properties	Flammable solid
Bulk Density	75 lb/ft^3

Other information

VOC Content (%) None

10. STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.
Fine dust dispersed in air may ignite.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Dust formation. Exposure to air or moisture. Static discharge, open flame or other ignition sources.

Incompatible materials

Incompatible with strong oxidizing agents.

Hazardous decomposition products

Sulfur dioxide. Hydrogen Sulfide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.
Eye Contact May cause irritation.
Skin Contact May cause irritation.
Ingestion May cause irritation to the gastrointestinal tract.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)
Sulfur	> 0.047 mg/L (rat) (4-hour exposure)	> 5000 mg/kg (rat)
Bentonite Clay		5000 mg/kg (rat)
Silica, Quartz		500 mg/kg (rat)

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

STOT - single exposure

Inhalation: May cause nose, throat and lung irritation.
Eye exposure: May cause severe eye irritation (sore, red, tearing eyes).
Skin exposure: May increase UV sensitivity (sunlight).
Ingestion: May be harmful if large amounts are swallowed (nausea, vomiting, diarrhea).

STOT - repeated exposure

Inhalation: May cause lung irritation or injury (see note below).

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Toxicity No information available.

Carcinogenicity Inhalation: Crystalline Silica is a confirmed human carcinogen (Lung cancer). But the OSHA publication (3911-07 2017) Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for General Industry and Maritime, states “exposures from the processing of sorptive clays are excluded from this standard. Sorptive clays such as bentonite are specific types of clay found in a few geologic deposits in the country that are used in a range of consumer products and industrial applications, such as pet litter and sealants for landfills. The occluded quartz found in sorptive clays is considerably less toxic than unoccluded quartz (e.g. from construction activities such drywalling or cutting, grinding, sandblasting, drilling, crushing, etc. of rock, concrete, brick or ceramics), and there is insufficient evidence for its inclusion in the standard”. In addition to being a less toxic form, the Crystalline Silica present in KRO* Keg90S is less than 3% of the bentonite clay ingredient, which equates to <0.3% of the finished product. Furthermore, the clay and silica are encapsulated in the sulfur pastilles and generally not airborne and subject to inhalation.

Reproductive Toxicity No information available.

Aspiration Hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sulfur 7704-34-9	No information available	LC50: 866 mg/L Brachydanio rerio 96 h static LC50: <14 mg/L Lepomis macrochirus 96 h static LC50: >180 mg/L Oncorhynchus mykiss 96 h static	No information available	> 5000 mg/L (Daphnia magna (water flea); 48-hour; fresh water; static)
Bentonite 1302-78-9	No information available	LC50 96 h: 8.0-19.0 g/L (Salmo gairdneri) LC50 96 h: = 19000 mg/L static (Oncorhynchus mykiss)	No information available	No information available

Persistence and Degradability No information available.

Bioaccumulation No information available.

Movement from soil to groundwater Moves slowly through soil based on physical and chemical properties.

Other Adverse Effects No information available.

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.

14. TRANSPORTATION INFORMATION

Not regulated under Canadian TDG or US DOT regulations.

15. REGULATORY INFORMATION

International Inventories

TSCA All components of this product are either listed or are exempt on the TSCA inventory.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL) Canada: Listed

Legend

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

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	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

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

CERCLA

KRO* Keg90S 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). Please check to see if specific reporting requirements exist 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

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Sulfur	X	X	X		X

16. OTHER INFORMATION

NFPA Health Hazard 1 **Flammability** 1 **Instability** 0

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General Disclaimer

The information presented in this Safety Data Sheet is correct to the best of our knowledge and information at the time of preparation. Please use the information only as a guideline for KRO* Keg90S; this sheet is not to be considered a warranty or quality specification. The information applies to KRO* Keg90S only and is not necessarily valid when this material is used in combination with any other materials or in any process, unless specified here. The information contained here is not guaranteed to be completely accurate or complete. The user assumes all risks with using the product.

End of Safety Data Sheet