

Safety Data Sheet

Revision Date: October 15th, 2019

1. Identification

1.1 Product Name: BIO-SUL

1.2 Other Identification:

Chemical Family: Sulfur
Formula: S
EPA Registration Number: 71096-16
CAS Number: 7704-34-9
Product: 1.0% Sulfur Active Ingredient

1.3 Recommended Uses and Restrictions:

Molluscicide
See product label for use restrictions

1.4 Manufacturer:

OR-CAL Inc.
29454 Meadowview Rd.
Junction City, OR 97448
541-689-4413 (Office)
541-689-5026 (FAX)
www.orcalinc.com
EPA Establishment No. 52251-OR-005

1.5 Emergency Contact:

CHEMTREC
1-800-424-9300 (US and Canada)
National Pesticide Information Center:
1-800-858-7378
American Association of Poison Control Centers:
1-800-222-1222

2. Hazards

2.1 Hazard Classification:

Health:

Acute Oral Toxicity	Category 4
Acute Dermal Toxicity	Category 4
Acute Inhalation Toxicity	N/A
Skin Corrosion/Irritation	Not Irritating
Eye Damage/Irritation	Category 2B

GHS Hazard Categories:

1(Severe), 2/A (Serious),
2/B (Mildly Irritating),
3(Moderate), 4(Slight),
5(Minimal)

Physical:

None identified at this time

2.2 Signal Word(s):

Caution (USEPA Stamped Label)
Warning (GHS)

2.2.1 Hazard Statement(s):

Harmful if swallowed
Harmful in contact with skin
Causes eye irritation

2.2.2 Symbol(s):



2.2.3 Precautionary Statements:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

- Do not eat, drink or smoke when using this product.
- Remove PPE immediately after handling this product.
- Wash thoroughly and change into clean clothing after handling or using this product.
- Take off contaminated clothing and wash it before reuse.
- Have the product label or container with you when calling the poison control center or doctor, or going for treatment.

2.3 Unclassified Hazard(s): Potential aquatic toxicity

2.4 Unknown Toxicity Ingredient: None

3. Composition/Information on Ingredient

3.1 Product Composition:

Chemical Name	Formula	CAS No.	WT % A.I.	EC No.
Sulfur	S	7704-34-9	1.0%	231-722-6
Remaining Ingredients	Trade Secret	NA	99%	NA

4. First Aid Measures

4.1 Symptoms/Effects:

Acute: Mild skin irritation or rash

Chronic: No known chronic effects

4.2 Eyes:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.

4.3 Skin:

If on skin: Rinse off immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice if skin irritation occurs. Take off contaminated clothing and wash it before reuse.

4.4 Ingestion:

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Rinse mouth. 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.

4.5 Inhalation:

If inhaled: Due to the pellet nature of this product inhalation is not applicable.

5. Firefighting Measures

5.1 Flammable properties: (See section 9 for additional properties)

5.2 Extinguishing Media:

5.2.1 Suitable Extinguishing Media:

Use media appropriate for surrounding fire

5.2.2 Unsuitable Extinguishing Media:

Not Applicable

5.3 Protection of Firefighters:

5.3.1 Specific Hazards Arising from the Chemical

Physical Hazards: None

Chemical Hazards: None

5.3.2 Protective Equipment and Precautions for Firefighters:

Wear NIOSH approved self-contained breathing apparatus due to the possible presence of gases and the irritating nature of the product.

5.4 Additional Information:

National Fire Protection Association (NFPA) Ratings:

Health	1
Flammability	0
Reactivity	0
Special	N/A

Hazard Rating: 4 (severe), 3 (serious), 2 (moderate), 1 (slight), 0 (minimal.)

6. Accidental Release Measures

6.1 Personal Precautions:

Use Personal Protective Equipment specific in section 8. Remove contaminated clothing and wash affected skin areas with soap and water.

6.2 Environmental Precautions:

Avoid release to the aquatic environment because of potential aquatic toxicity. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

6.3 Methods of Containment

Small Release:

Recover dry product if possible. Do not wash away. If wet, floors may become slippery. To remove residue, wet with water and absorb with absorbent material, package spillage and dispose of according to local, State, Tribal and Federal regulations. Keep spillage from entering sewers and bodies of water. Follow PPE requirements in section 8.

Large Release:

Same as above

6.4 Method for Cleanup:

Small Release:

Sweep, Don't wash. Floors may become slippery when wet. Try not to generate dust while sweeping. To remove residue, wet with water, package spillage and dispose of according to local, State, Tribal and Federal laws. Follow PPE requirements in section 8.

Large Release:

Same as above

7. Handling and Storage

7.1 Handling: Wear goggles and gloves when handling this product.

7.2 Storage: Store product in a cool dry place. Store BIO-SUL Slug & Snail Bait in its original container in a cool, locked place out of reach of children and animals. Do not store near food or feed.

8. Exposure Control/Personal Protection

8.1 Exposure Guidelines:

8.1.1 OSHA (TWA, STEL):

Technical Sulfur not listed

8.1.2 ACGIH (TLV, STEL):

Not Established.

8.2 Engineering Controls:

Use adequate exhaust ventilation. Keep eye wash/safety shower in areas where commonly used.

8.3 Personal Protective Equipment (PPE):

8.3.1 Eye/Face Protection: Goggles

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8.3.2 Skin Protection:

Long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material, chemical resistant footwear plus socks.

8.3.3 Respiratory Protection:

Not usually required.

8.3.4 Hygiene Considerations:

Wash hands thoroughly after handling this product before eating, drinking, chewing gum, using tobacco, or using the toilet.

9. Physical and Chemical Properties

9.1 Appearance: Off-white to light brown pellet

9.2 Odor: Wheat flour odor

9.3 Odor Threshold: Not Available

9.4 pH: 5

9.5 Melting Point/Freezing Point: Sulfur 246°F (118.4°C)

9.6 Boiling Point: Not Available

9.7 Flash Point: Sulfur 364.0 °F (184.4 °C) (dust)

9.8 Evaporation Rate: (Butyl Acetate=1) Not Available

9.9 Flammability: Not applicable

9.10 Upper/Lower Flammability Limits: Not Applicable

9.11 Vapor Pressure: Not Applicable

9.12 Vapor Density: (Air=1) Not Applicable

9.13 Bulk Density: 42-48 Lb. /Ft³

9.14 Solubility: Insoluble in water

9.15 Partition Coefficient: Not Available

9.16 Auto-ignition Temperature: Not Available

9.17 Decomposition Temperature: Not Available

9.18 Viscosity: Not Applicable

9.19 Storage life: At recommended conditions a minimum of 2 years

10. Stability and Reactivity

10.1 Reactivity: Stable

10.2 Chemical Stability: Stable

10.3 Possibility of Hazardous Reactions: None Identified

10.4 Conditions to Avoid: None identified

10.5 Incompatible Materials: None identified

10.6 Hazardous Decomposition Products: CO_x, SO_x, H₂S

11. Toxicological Information

- 11.1 Oral:** LD₅₀ > 2200 mg/kg (Rat)
- 11.2 Dermal:** LD₅₀ > 2000 mg/kg, 24 hrs. (Rat)
- 11.3 Inhalation:** Not Applicable as product is a pellet
- 11.4 Eye:** Mildly Irritating
- 11.5 Chronic/Carcinogenicity:** Data not available
- 11.6 Teratology:** Data not available
- 11.7 Reproduction:** Data not available
- 11.8 Mutagenicity:** Data not available

12. Ecological Information

12.1 Ecotoxicity:

- Green Algae EC 50: Data not available
- Honey Bee LD 50: Data not available
- Avian LD 50: Data not available
- Bobwhite Quail Dietary LC 50: Data not available
- Mallard Duck LC 50: Data not available

- 12.2 Persistence & Degradability:** No data available
- 12.3 Bioaccumulative Potential:** This product is not bioaccumulative
- 12.4 Mobility in Soil:** No data available
- 12.5 Other Adverse Effects:** None known at this time

13. Disposal Considerations

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency. Consult International, Federal, Tribal, State, and local agencies for disposal regulations.

14. Transport Information

14.1 Basic Shipping Description:

- 14.1.1 UN Number: Not listed (Sulfur UN1350)
- 14.1.2 UN proper shipping name: Agriculture NOI-Insecticide or Fungicide (Not regulated by DOT)
- 14.1.3 Class: 60
- 14.1.4 Packing Group: Not applicable
- 14.1.5 Hazardous Substance: No

14.2 Additional Information:

- 14.2.1 Other DOT Requirements: (not regulated by DOT)

- 14.2.1.1 Reportable Quantity: No
- 14.2.1.2 Placard(s): Not Applicable
- 14.2.1.3 Labels(s): Not Applicable

- 14.2.2 USCG Classification: Not Available
- 14.2.3 International Transportation:
 - 14.2.3.1 IMO: Not Available
 - 14.2.3.2 IATA: Not Available
 - 14.2.3.3 TDG (Canada): BIO-SUL Not listed. Sulfur listed in packaging group III
 - 14.2.3.4 ADR (Europe): BIO-SUL Not listed. Sulfur listed.
 - 14.2.3.5 ADG (Australia): BIO-SUL Not listed. Sulfur listed.
 - 14.2.3.6 RR STCC: Not Listed
- 14.2.4 Emergency Response Guide: Guide No. 133 ID No. 1350 (for A.I.)
- 14.2.5 ERAP-Canada: Not Required
- 14.2.6 Special Precautions: Consult appropriate authorities before shipping this product internationally.

15. Regulatory Information

15.1 U.S. Federal Regulations:

- 15.1.1 OSHA: This product meets the criteria of the Federal OSHA Hazard Communication Standard 29 CFR §1910.1200
- 15.1.2 TSCA: BIO-SUL not listed.
- 15.1.3 CERCLA: Reportable Quantity
No
- 15.1.4 SARA Title III:
 - 15.1.4.1 Extremely Hazardous Substance (EHS): Not Listed
 - 15.1.4.2 Section 312 (Tier II) Ratings:
Fire: No
Sudden Release: No
Reactivity: No
Immediate (acute): No
Delayed (chronic): No
 - 15.1.4.2 Section 313 (FORM R): No
- 15.1.5 RCRA (Resource Conservation & Recovery Act) Status: Not Listed
- 15.1.6 CAA (Hazardous Air Pollutant/HAP): Not Listed

15.2 International Regulations:

- 15.2.1 Canada:
 - 15.2.1.1 WHMIS: Pest Control Products not included as defined by the Pest Control Products Act
 - 15.2.1.2 DSL/NDSL: There is no control measure imposed on this substance.

15.3 State Regulations:

- CA Proposition 65: Not Listed

16. Other Information

16.1 Use of Substance/Preparation:

16.1.1 This product is a unique blend of the active ingredient, sulfur, with slug and snail bait additives. Sulfur is an element found in nature and used in many fertilizers. The bait will degrade and become a part of the soil. The bait is attractive to slugs and snails and lures them from their hiding places. Ingestion of the bait will cause them to cease feeding. After eating the bait, the slugs and snails cease feeding, become less mobile and begin to die within one to three days. Dead slugs and snails may not be visible as they often crawl away to secluded places to die. Plant protection will be observed in the decrease in plant damage. This product is effective against a wide variety of slugs and snails and will give protection to home lawns, gardens, greenhouses, outdoor ornamentals, vegetable gardens, fruits, berries, citrus and crop plants. The bait can be scattered on the lawn or on the soil around any vegetable plants, flowers or fruit trees or bushes to be protected.

16.1.2 This product is ready to use and requires no preparation. Read the label for application instructions.

16.2 Abbreviations:

ACGIH: American Conference of Government Industrial Hygienists
ADG: Australian Dangerous Goods
ADR: Carriage of Dangerous Goods by Road (Europe)

A.I.: Active Ingredient
CAA: Clean Air Act
CAS: Chemical Abstracts Service Registry Number
CERCLA: Comprehensive Environmental Response Compensation and Liability Act
DSL: Domestic/Non-Domestic Substance List
ERAP: Emergency Response Assistance Plan (Canada)
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
GHS: Globally Harmonized System of Classification
IATA: Integrated Approaches to Testing and Assessment
IMO: International Maritime Organization
NA: Not Applicable
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RCRA: Resource Conservation and Recovery Act
STCC: Standard Transportation Commodity Code
TDG: Transportation of Dangerous Goods (Canada)
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act Inventory
TWA: Time Weighted Average (8 hours)
USEPA: United States Environmental Protection Agency
WHMIS: Workplace Hazardous Materials information System

Revised October 15th, 2019 to include the instruction to consult tribal governing bodies when appropriate and to recognize them as equal to those of their federal counterparts.

The information compiled in this safety data sheet is believed to be accurate and is given in good faith, but it is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. No warranty or guarantee, expressed or implied, is made regarding performance, stability or otherwise, of this product, as the manner and conditions of use, handling, storage and other factors may involve other additional safety or performance considerations. No suggestions for use are intended as, and nothing herein shall be constructed as a recommendation to infringe any existing patents or violate International, Federal, State, Tribal, or local laws.