



OR-CAL DUO

Safety Data Sheet

Revision Date: December 3rd, 2015

1. Identification

1.1 Product Name: OR-CAL DUO

1.2 Other Identification:

Chemical Family: Metaldehyde & Sulfur

Formula: $C_8H_{16}O_4$ & S

EPA Registration Number: 71096-

CAS Number: 108-62-3 & 7704-34-9

Product: 2% Metaldehyde & 0.5% Sulfur Active Ingredient

1.3 Recommended Uses:

Molluscicide

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	Category 4
Skin Corrosion/Irritation	Not irritating
Eye Damage/Irritation	Category 2A

GHS Hazard Categories:

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

Physical:

Harmful to domestic animals. Slightly toxic to fish on an acute basis. Toxic to Mollusks.

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

Harmful to children and fatal to domestic animals when ingested

2.2.2 Symbol(s):



2.2.3 Precautionary Statement:

- Wash hands thoroughly after handling before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product.
- As soon as possible, wash thoroughly and change into clean clothing after handling or using this product.
- Have the product label or container with you when calling the poison control center or doctor, or going for treatment.
- This product can be harmful to domestic animals. If ingestion by pet is suspected, bring the product container or label with you to the veterinarian. Go Immediately.

2.3 Unclassified Hazard(s): This pesticide is toxic to mollusks (e.g., clams, oysters, scallops, mussels). This pesticide is toxic to birds and mammals.

2.4 Unknown Toxicity Ingredient: None

3. Composition/Information on Ingredient

3.1 Product Composition:

Chemical Name	Formula	CAS No.	WT % A.I.	EINECS No.
Metaldehyde	C ₈ H ₁₆ O ₄	108-62-3	2%	203-600-2
Sulfur	S	7704-34-9	0.5%	231-722-6
Remaining Ingredients	Trade Secret	NA	97.5%	NA

4. First Aid Measures

4.1 Symptoms/Effects:

Acute: This product can be harmful to children and domestic animals. Avoid contact with eyes, as product is a mild irritant and may cause redness and burning. If inhaled, dust may cause mild irritation of nasal mucus membranes. May cause dry coughing or wheezing. Toxic if swallowed. If ingested, this product may cause excessive salivation, vomiting, nausea, acetonuria (odor of acetone on breathe), convulsions, increased body temperature, depression of medullary respiratory and vasomotor control centers.

May result in coma and can be fatal. **Note: Because of low amounts of metaldehyde in this product (2%), it is unlikely the victim can be exposed to sufficient quantities of metaldehyde to have coma or death induced.**

Chronic:

This product is a mild skin irritant especially from long-term exposure and may cause redness or chafing.

4.2 Eyes:

If in eyes: 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.

4.3 Skin:

If on skin: Take off contaminated clothing. Rinse skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash contaminated clothing 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: Move person to fresh air and keep person comfortable. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

5. Firefighting Measures

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

Do not introduce heat to OR-CAL DUO. Decomposition products of metaldehyde are paraldehyde and acetaldehyde, of which the toxicity is unknown. Acetaldehyde may be oxidized to acetic acid, which may catalyze the decomposition of metaldehyde.

5.2 Extinguishing Media:

5.2.1 Suitable Extinguishing Media:

Water, Carbon Dioxide, Dry Chemical

5.2.2 Unsuitable Extinguishing Media:

Not Applicable

5.3 Protection of Firefighters:

5.3.1 Specific Hazards Arising from the Chemical

Physical Hazards: Dangerous when exposed to heat or flame.

Chemical Hazards: Carbon Dioxide, carbon monoxide, paraldehyde and acetaldehyde are all known hazardous products of combustion.

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	2
Flammability	1
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:

Keep spill out of open bodies of water and municipal sewers unless allowed under NPDES (National Pollutant Discharge Elimination System) permit. Do not release into the aquatic environment.

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, Tribal, State, 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, Tribal, State, and Federal laws. Follow PPE requirements in section 8.

Large Release: Same as above

7. Handling and Storage

7.1 Handling:

Avoid contact with eyes, skin or clothing. Fatal if swallowed. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. See section 8 for a complete list of PPE to wear when handling this product.

7.2 Storage:

Store OR-CAL DUO in its original container in a cool, locked place out of reach of children. Do not allow to freeze. Do not store near food or feed. This product can be fatal to children and dogs (and other domestic animals) if ingested. Dogs have been known to ingest metaldehyde after opening or tearing packaging.

8. Exposure Control/Personal Protection

8.1 Exposure Guidelines:

8.1.1 OSHA (TWA, STEL):

Not listed as an air contaminant in 1910.1000 table Z-1
Technical Sulfur not listed

8.1.2 ACGIH (TLV, STEL):

Not Available

8.2 Engineering Controls:

Use adequate exhaust ventilation to prevent inhalation of product vapors. Keep eye wash/safety shower in areas where commonly used.

8.3 Personal Protective Equipment (PPE):

8.3.1 Eye/Face Protection:

Not necessary unless use generates nuisance dust then, wear goggles or face shield

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 necessary unless use generates nuisance dust then, wear dust mask or respirator.

8.3.4 Hygiene Considerations:

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

9. Physical and Chemical Properties

9.1 Appearance: Brown Pellet

9.2 Odor: Slight Mint/Wheat

9.3 Odor Threshold: Not Available

9.4 pH: 5.5

9.5 Melting Point/Freezing Point: 246C

9.6 Boiling Point: Not available

9.7 Flash Point: Not available

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 Available

9.12 Vapor Density: (Air=1) Not Available

9.13 Average Relative Density: 40-46 Lb./ft³

9.14 Water Solubility: Insoluble

9.15 Partition Coefficient: Not Applicable

9.16 Auto-ignition Temperature: Not Applicable

9.17 Decomposition Temperature: Not Applicable

9.18 Viscosity: Not Applicable

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

10. Stability and Reactivity

10.1 Reactivity: Products can be reactive with the introduction of oxidizing agents

10.2 Chemical Stability: Stable

10.3 Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

10.4 Conditions to Avoid: Direct sunlight, excessive heat and freezing conditions.

10.5 Incompatible Materials: Oxidizing agents

10.6 Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, paraldehyde, and acetaldehyde.

11. Toxicological Information

11.1 Oral: Data not available

11.2 Dermal: Data not available

11.3 Inhalation: Not Applicable

11.4 Eye: Not 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: Metaldehyde is used to protect a wide variety of plant types. No adverse ecological incidents have been reported with regard to metaldehyde and terrestrial plants. (USEPA RED).

12.2 Persistence & Degradability: Metaldehyde is highly mobile in soils, and is generally stable to abiotic degradation mechanisms such as hydrolysis and photolysis (USEPA RED).

12.3 Bioaccumulative Potential: This product is not bioaccumulative. Metaldehyde is primarily dissipated from soils through biodegradation under aerobic conditions, with a half-life of approximately 2 month (USEPA RED).

12.4 Mobility in Soil: Metaldehyde is highly mobile in soils (USEPA RED).

12.5 Other Adverse Effects: None known at this time.

Note: All Ecological Information derived from United States. Environmental Protection Agency. Reregistration Eligibility Document for Metaldehyde. 27 July. 2006<http://www.epa.gov/pesticides/reregistration/REDS/metaldehyde_red.pdf>

13. Disposal Considerations

Completely empty bag, then dispose of in a sanitary landfill, by incineration or by burning, according to local, state and federal regulations. If burning stay out of smoke. Do not contaminate lakes, streams, oceans or other waters by discharge of waste effluents or equipment wash waters.

Note: Chemical additions or other alterations of this product may invalidate any disposal information in this SDS. Therefore, consult local waste regulators for proper disposal.

14. Transport Information

14.1 Basic Shipping Description:

- 14.1.1 UN Number: Not listed (Metaldehyde UN1332 & 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 Applicable
- 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): Not Listed
 - 14.2.3.4 ADR (Europe): OR-CAL DUO is not listed.
 - 14.2.3.5 ADG (Australia): OR-CAL DUO is not listed
 - 14.2.3.6 RR STCC: Not Listed
- 14.2.4 Emergency Response Guide: Guide No. 133 ID No. 1332 & 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: 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

15.1.4.1 Section 313 (FORM R): No

15.1.5 RCRA (Resource Conservation & Recovery Act) Status: Not Applicable

15.1.6 CAA (Hazardous Air Pollutant/HAP): Not Applicable

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 Use: OR-CAL DUO is a soil surface treatment for the control of snails and slugs in citrus groves, berry crops, listed vegetable crops, ornamentals for production and seed grasses.
- 16.1.2 Preparation: This product is pelleted and prepared during manufacture. There is no preparation for the applicator.

16.2 Abbreviations:

- ACGIH: American Conference of Gov. 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/NDSL: 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
- NA: Not Applicable
- IMO: International Maritime Organization
- OSHA: Occupational Safety and Health Administration
- RCRA: Resource Conservation and Recovery Act
- RED: Reregistration Eligibility Decision
- STCC: Standard Transportation Commodity Code

STEL: Short Term Exposure Limit (15 minutes)
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

Revisions: This SDS was reformatted to comply with the new Hazard Communication Standard dated December 3rd, 2015, by the Regulatory Department of OR-CAL Inc.

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