

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>DURHAM® METALDEHYDE GRANULES 3.5</b>	
<b>Other means of identification</b>		
<b>SDS number</b>	137	
<b>Product registration number</b>		
<b>EPA</b>	5481-583 5481-91	
<b>Synonyms</b>	TRAILS END® 3.5 * Durham® Ornamental 3.5	
<b>Recommended use</b>	Molluscicide	
<b>Recommended restrictions</b>	Keep out of the Reach of Children! Keep away from dogs!	
<b>EPA Registration number</b>	EPA: 5481-91, 5481-583	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	AMVAC Chemical Corporation	
<b>Address</b>	4695 MacArthur Court Suite 1200 Newport Beach, CA 92660 United States	
<b>Telephone</b>	AMVAC Chemical Corp	949-260-1200
	AMVAC Chemical Corp	949-260-6270(FAX)
<b>E-mail</b>	CustServ@Amvac-Chemical.com	
<b>Emergency phone number</b>	Medical	888-681-4261
	CHEMTREC® (USA+Canada)	800-424-9300
	Product Use	888-462-6822
	CHEMTREC® (Outside USA)	1+703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>OSHA defined hazards</b>	Not classified.
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	Not available.
<b>Precautionary statement</b>	
<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

**Supplemental information**

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced in section 15. The pesticide label also includes other important information, including directions for use.

**3. Composition/information on ingredients****Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Metaldehyde		108-62-3	3.5
Carrier		NA	80 -90

**Composition comments**

Occupational Exposure Limits for constituents are listed in Section 8.

**4. First-aid measures****Inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

**Skin contact**

Remove contaminated clothing. Rinse skin with water/shower. Call a POISON CENTER or doctor/physician if you feel unwell. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

**Eye contact**

Remove contact lenses, if present and easy to do. Continue rinsing.

**Ingestion**

Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms/effects, acute and delayed**

Based on animal toxicity information for metaldehyde, it is anticipated that this material would be harmful upon ingestion and that direct contact may elicit mild eye and skin irritation. Overexposure to metaldehyde may cause excessive salivation, vomiting, nausea, acetoneuria (odor of acetone on breath), convulsions, increased body temperature, depression of medullary respiratory and vasomotor control centers. Coma. May be fatal. [Note: Because of the low amounts of metaldehyde in the product, it is unlikely the victim can be exposed to sufficient quantities of metaldehyde to have coma or death induced]. Overexposure may aggravate preexisting conditions associated with the kidney, liver, and brain.

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

Metaldehyde is a systemic toxin. There is no antidote. According to Hazardous Substance Database (HSDB), gastric lavage should be considered if potentially life-threatening levels of Metaldehyde have been ingested, if the procedure can be performed within one hour of ingestion. Administration of Diazepam or Clonidine 20 minutes after ingestion of 1000 mg/kg of Metaldehyde by mice delayed the onset of symptoms and reduced mortality. This is equivalent to 0.6 lb of metaldehyde ingested for a 10 kg child. Therefore, Diazepam and Clonidine may be appropriate antidotes to reduce the symptomatology of Metaldehyde ingestion. For acute inhalation overexposure, the patient should be monitored as respiratory failure may occur 24 to 48 hours after exposure. Contact your local or state Poison Control Center for more information. Treatment is symptomatic and supportive. Monitor severe exposures closely: seizures, electrolyte imbalances, acidosis, dehydration, and increased body temperature have been reported.

**General information**

Take off contaminated clothing and shoes immediately. Show this safety data sheet to the doctor in attendance. In case of shortness of breath, give oxygen. Keep victim warm. Wash contaminated clothing before reuse.

**5. Fire-fighting measures****Suitable extinguishing media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media**

None known.

**Specific hazards arising from the chemical**

Carbon oxides, paraldehyde, acetaldehyde, and other unknown compounds can be formed during the combustion of Metaldehyde.

**Special protective equipment and precautions for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**

Use water spray to cool unopened containers.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**

No unusual fire or explosion hazards noted.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up** Following product recovery, flush area with water. Shovel up and place in a container for salvage or disposal. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling** Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Keep away from food, drink and animal feedstuffs. Keep out of the reach of children.

**Conditions for safe storage, including any incompatibilities** Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Do not store in direct sunlight.

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Carrier	TWA	0.8 mg/m <sup>3</sup> 20 mppcf

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carrier	TWA	6 mg/m <sup>3</sup>

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** Not available.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

#### Skin protection

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance** Gray to brown or blue granule

**Physical state** Solid.

**Form** Granular.

**Color** Gray to brown or blue

**Odor** Aldehyde odor

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not applicable

**Initial boiling point and boiling range** Not applicable

**Flash point** Not available.

**Evaporation rate** Not available

**Flammability (solid, gas)** Not available.

## Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.

**Vapor pressure** 1.90E+00 @ 24°C (active ingredient)

**Vapor density** 6.06 (air = 1)

**Relative density** 1.3 - 1.4 g/cm<sup>3</sup>

## Solubility(ies)

**Solubility (water)** 0.2 g/l @ 17°C for active ingredient

**Partition coefficient (n-octanol/water)** Not available

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

## Other information

**Bulk density** 81.3 - 87.5 lb/ft<sup>3</sup>

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

**Percent volatile** 5 %

**pH in aqueous solution** Not available

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

**Incompatible materials** Chlorine. Fluorine.

**Hazardous decomposition products** Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned. Acetaldehyde can be formed by decomposition of Metaldehyde. Decomposition by burning may result in carbon monoxide and other toxic fumes and vapors of unknown composition.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** No adverse effects due to inhalation are expected.

**Skin contact** No adverse effects due to skin contact are expected.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Based on animal toxicity information for Metaldehyde, it is anticipated that this material would be harmful upon ingestion and that direct contact may elicit mild eye and skin irritation. Overexposure to Metaldehyde may cause excessive salivation, vomiting, nausea, acetoneuria (odor of acetone on breath), convulsions, increased body temperature, depression of medullary respiratory and vasomotor control centers and coma. May be fatal. [Note: Because of the low amounts of Metaldehyde in the product, it is unlikely the victim can be exposed to sufficient quantities of Metaldehyde to have coma or death induced.] Overexposure may aggravate preexisting conditions associated with the kidney, liver, and brain.

### Information on toxicological effects

**Acute toxicity** Not known. Causes slight skin irritation. Causes slight eye irritation.

Product	Species	Test Results
Metaldehyde Granules 3.5		
<b>acute</b>		
<b>dermal</b>		
LD50	rabbit	> 5050 mg/kg
<b>oral</b>		
LD50	rat	> 5000 mg/kg
<b>Skin corrosion/irritation</b>	Causes slight skin irritation.	
<b>Serious eye damage/eye irritation</b>	Slight irritant.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization. Not a skin sensitizer.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	None of the components found in appreciable quantities has been found to be carcinogenic by IARC, NTP, or OSHA. Acetaldehyde, a decomposition product of Metaldehyde, has been listed as carcinogenic in the IARC monographs. Respirable crystalline silica is listed as being carcinogenic by both IARC and NTP. Both are present at less than 0.01% in the product.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Carrier (CAS NA)	3 Not classifiable as to carcinogenicity to humans.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)</b>		
Not regulated.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	No adverse effects due to inhalation are expected.	
<b>12. Ecological information</b>		
<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
<b>Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.	
<b>Bioaccumulative potential</b>	No data available.	
<b>Mobility in soil</b>	No data available.	
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
<b>13. Disposal considerations</b>		
<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.	
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.	
<b>Hazardous waste code</b>	D001: Waste Flammable material with a flash point <140 F The waste code should be assigned in discussion between the user, the producer and the waste disposal company.	
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).	

**Contaminated packaging**

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. Transport information****DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

Not regulated as dangerous goods.

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

**15. Regulatory information****US federal regulations**

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

United States Environmental Protection Agency (EPA) Labeling Requirements: This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful by inhalation, in contact with skin and if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin, and clothing.

IMPORTANT: This product can be harmful to children and fatal to domestic animals when ingested. Children and dogs may be attracted to the product. Application of this product is prohibited unless children and domestic animals can be excluded from the treated area from the start of the application until applied material is no longer visible.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to mollusks (e.g., clams, oysters, scallops, mussels). Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate. This pesticide is toxic to birds and mammals. Granules on soil surface may be hazardous to terrestrial wildlife. Cover or collect any such materials spilled during loading.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Acute toxicity (any route of exposure)  
Reproductive toxicity

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations****California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** Apr-08-2015**Revision date** Sep-05-2018

**References**

ACGIH®: American Conference of Governmental Industrial Hygienists  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act  
 EPA: Environmental Protection Agency  
 FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act  
 IARC: International Agency for Research on Cancer  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Agency  
 SARA: Superfund Amendments and Reauthorization Act  
 TSCA: Toxic Substances Control Act  
 DOT: Department of Transportation  
 IMDG: International Maritime Dangerous Goods  
 IATA: International Air Transport Association

**Version #** 3.1

**HMIS® ratings**

Health: 1  
 Flammability: 1  
 Physical hazard: 0

**NFPA ratings**

Health: 1  
 Flammability: 1  
 Instability: 0

**Disclaimer**

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HMIS is a trademark of the American Coatings Association.

NFPA is a trademark of the National Fire Protection Association, Inc.

**Revision information**

Composition / Information on Ingredients: Additional Components

Regulatory information: California Proposition 65