

# SAFETY DATA SHEET

## Section 1. Identification

<b>Product identifier</b>	<b>AMYL ZIMATE®</b>
<b>Product code</b>	74555
<b>Other means of identification</b>	Zinc diamylidithiocarbamate in oil.
<b>Product type</b>	Liquid.
<b>Material uses</b>	Accelerator.
<b>Supplier/Manufacturer</b>	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855 1-203-853-1400
<b>Emergency telephone number</b>	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887

## Section 2. Hazard(s) identification

<b>OSHA/HCS status</b>	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
<b>Classification of the substance or mixture</b>	Not classified.
<b>GHS label elements</b>	
<b>Signal word</b>	No signal word.
<b>Hazard statements</b>	No known significant effects or critical hazards.
<b>Precautionary statements</b>	
<b>Prevention</b>	Not applicable.
<b>Response</b>	Not applicable.
<b>Storage</b>	Not applicable.
<b>Disposal</b>	Not applicable.
<b>Hazards not otherwise classified</b>	None known.

### Section 3. Composition and ingredient information

**Substance/mixture** Mixture  
**Other means of identification** Zinc diamylidithiocarbamate in oil.

Ingredient name	CAS number	% by weight
Zinc, bis(N,N-dipentylcarbamo-dithioato-.kappa.S,.kappa.S')-, (T-4)-petroleum process oil, <3.0% DMSO extractable material	15337-18-5 64742-52-5	50 50

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**The total concentration of ingredients in this product, reported or not in this section, is 100%.**

**Occupational exposure limits, if available, are listed in Section 8.**

### Section 4. First aid measures

Description of necessary first aid measures

**Eye contact** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

**Eye contact** No known significant effects or critical hazards.  
**Inhalation** No known significant effects or critical hazards.  
**Skin contact** No known significant effects or critical hazards.  
**Ingestion** No known significant effects or critical hazards.

Over-exposure signs/symptoms

**Eye contact** No specific data.  
**Inhalation** No specific data.  
**Skin contact** No specific data.  
**Ingestion** No specific data.

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

**Notes to physician** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** No specific treatment.

**Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training.

## Section 4. First aid measures

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical** In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 metal oxide/oxides

**Special protective actions for fire-fighters** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures**

Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
petroleum process oil, <3.0% DMSO extractable material	<p><b>OSHA PEL (United States)</b> TWA: 5 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States)</b> STEL: 10 mg/m<sup>3</sup>.</p> <p><b>NIOSH REL (United States, 10/2020) [OIL MIST MINERAL]</b> TWA 10 hours: 5 mg/m<sup>3</sup>. Form: Mist. STEL 15 minutes: 10 mg/m<sup>3</sup>. Form: Mist.</p>

**Appropriate engineering controls**

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: splash goggles

**Skin protection**

**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

## Section 8. Exposure controls and personal protection

- Body protection** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat
- Other skin protection** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Personal protective equipment (Pictograms)**



## Section 9. Physical and chemical properties

**Appearance**

- Physical state** Liquid.
- Color** Amber.
- Odor** Not available.
- Odor threshold** Not available.
- pH** Not available.
- Melting point** Not available.
- Boiling point** Not available.
- Flash point** Closed cup: 136°C (276.8°F) [Pensky-Martens]
- Burning time** Not applicable.
- Burning rate** Not applicable.
- Evaporation rate** 0.01 (butyl acetate = 1)
- Flammability (solid, gas)** Not available.
- Lower and upper explosive (flammable) limits** Not available.
- Vapor pressure** <0.0013 kPa (<0.01 mm Hg)
- Vapor density** 5 [Air = 1]
- Density** 0.9 g/cm<sup>3</sup> [25°C (77°F)]
- Relative density** 0.9
- Solubility(ies)**

Media	Result
cold water	Not soluble
acetone	Easily soluble

- Solubility in water** Not available.
- Partition coefficient: n-octanol/water** Not applicable.
- Auto-ignition temperature** Not available.
- Decomposition temperature SADT** Not available.

## Section 9. Physical and chemical properties

**Viscosity** Dynamic (room temperature): Not available.  
 Kinematic (room temperature): 336 mm<sup>2</sup>/s (336 cSt) [at 25°C]  
 Kinematic (40°C (104°F)): Not available.

## Section 10. Stability and reactivity

**Reactivity** No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** The product is stable.

**Possibility of hazardous reactions** Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** No specific data.

**Incompatible materials** No specific data.

**Hazardous decomposition products** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Zinc, bis(N,N-dipentylcarbamodithioato-.kappa.S,.kappa.S'), (T-4)-petroleum process oil, <3.0% DMSO extractable material	LD50 Oral	Rat	>2000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	2.18 mg/l (Based on tests of similar materials)	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg (Based on tests of similar materials)	-
	LD50 Oral	Rat	>5000 mg/kg (Based on tests of similar materials)	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc, bis(N,N-dipentylcarbamodithioato-.kappa.S,.kappa.S')-, (T-4)-  petroleum process oil, <3.0% DMSO extractable material	Eyes - Not irritant	Rabbit	-	-	-
	Skin - Not irritant	Human	-	-	-
	Eyes - Not irritant (Based on tests of similar materials)	Rabbit	-	-	-
	Skin - Not irritant (Based on tests of similar materials)	Rabbit	-	-	-

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
zinc diamylidithiocarbamate petroleum process oil, <3.0% DMSO extractable material	skin skin	Mouse Guinea pig	Not sensitizing Not sensitizing (Based on tests of similar materials)

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
zinc diamylidithiocarbamate   petroleum process oil, <3.0% DMSO extractable material	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 490	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 487	Experiment: In vitro Subject: Mammalian-Human	Negative
	OECD 471	Experiment: In vitro Subject: Bacteria	Positive (Based on tests of similar materials)
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative (Based on tests of similar materials)

### Carcinogenicity

Not available.

Product/ingredient name	OSHA	IARC	NTP
AMYL ZIMATE®	None.	-	-

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Zinc, bis(N,N-dipentylcarbamodithioato-.kappa.S,.kappa.S')-, (T-4)-	-	-	-	Rat	Oral: 250 mg/kg	-

### Teratogenicity

Not available.

## Section 11. Toxicological information

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	May be harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

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

#### Short term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Long term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Zinc, bis(N,N-dipentylcarbamodithioato-kappa.S,.kappa.S')-, (T-4)-petroleum process oil, <3.0% DMSO extractable material	Sub-chronic NOAEL Oral	Rat	250 mg/kg	-
	Sub-chronic LOAEL Oral	Rat	125 mg/kg (Based on tests of similar materials)	-

<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	5000 mg/kg

**Other information** Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Zinc, bis(N,N-dipentylcarbamodithioato-.kappa.S,.kappa.S')-, (T-4)-petroleum process oil, <3.0% DMSO extractable material	Acute EC50 >1000 mg/l	Micro-organism	3 hours
	Acute NOEC >1000 mg/l	Micro-organism	3 hours
	Acute EC50 >10000 mg/l (Based on tests of similar materials)	Daphnia	48 hours
	Acute LC50 >100 mg/l (Based on tests of similar materials)	Fish	96 hours
	Acute NOEL >100 mg/l (Based on tests of similar materials)	Algae	72 hours
	Acute NOEL >1000 mg/l (Based on tests of similar materials)	Daphnia	48 hours
	Acute NOEL >100 mg/l (Based on tests of similar materials)	Fish	96 hours

#### **Conclusion/Summary**

Zinc, bis(N,N-dipentylcarbamodithioato-.kappa.S,.kappa.S')-, (T-4)-:  
 Fish: In an OECD 203 study, the 96 hour toxicity (LC50) of exposure of fathead minnow to the test item resulted in an LC50 value of greater than 100% v/v saturated solution, based on the nominal test concentration. The No Observed Effect Concentration (NOEC) was 100% v/v saturated solution.

Invertebrates: In an OECD 202 study, the acute toxicity of the test item to the freshwater invertebrate daphnia magna was investigated and based on the geometric mean measured test concentrations gave a 48-Hour EC50 value of greater than 0.0076 mg/L as zinc (equivalent to 0.071 mg/L as test item). The No Observed Effect Concentration was 0.0076 mg/L as zinc (equivalent to 0.071 mg/L as test item) mg/L. This study showed that there were no toxic effects at saturation.

Algae: In an OECD 201 study, the effect of the test item on the growth of Pseudokirchneriella subcapitata was investigated and the 72-hour EC50 value based on growth rate was determined to be greater than 100% v/v saturated solution. The NOEC was given as 12.5% v/v saturated solution and the LOEC determined to be 25% v/v saturated solution.

### Persistence and degradability

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
zinc diamyldithiocarbamate petroleum process oil, <3.0% DMSO extractable material	OECD 301B Based on tests of similar materials	21 % - Not readily - 28 days 2 to 4 % - Not readily - 28 days (Based on tests of similar materials)	- -	- -
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
zinc diamyldithiocarbamate petroleum process oil, <3.0% DMSO extractable material	- -	- -	Not readily Not readily (Based on tests of similar materials)	

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Zinc, bis(N,N-dipentylcarbamo-dithioato-kappa.S., kappa.S')-, (T-4)-	>9.4	-	High

### Mobility in soil

**Soil/Water partition coefficient** Not available.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>ADR/RID Class</b>	Not regulated.	-	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-	-		-

## Section 14. Transport information

<b>IATA-DGR Class</b>	Not regulated.	-	-	-	-
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PG\* : Packing group

## Section 15. Regulatory information

### U.S. Federal regulations

**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

**Clean Water Act (CWA) 307:** zinc bis(dipentylidithiocarbamate)

### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** Not listed

**Clean Air Act Section 602 Class I Substances** Not listed

**Clean Air Act Section 602 Class II Substances** Not listed

**DEA List I Chemicals (Precursor Chemicals)** Not listed

**DEA List II Chemicals (Essential Chemicals)** Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** Not applicable.

### SARA 311/312

**Classification** Not applicable.

#### Composition/information on ingredients

No products were found.

### SARA 313

	<b>Product name</b>	<b>CAS number</b>	<b>%</b>
<b>Form R - Reporting requirements</b>	zinc bis(dipentylidithiocarbamate)	15337-18-5	50
<b>Supplier notification</b>	zinc bis(dipentylidithiocarbamate)	15337-18-5	50

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts**

The following components are listed: OIL MIST, MINERAL

**New York**

None of the components are listed.

**New Jersey**

The following components are listed: ZINC compounds

**Pennsylvania**

The following components are listed: ZINC COMPOUNDS

**California Prop. 65**

None of the components are listed.

### Inventory list

## Section 15. Regulatory information

<b>Australia</b>	All components are listed or exempted.
<b>Canada</b>	All components are listed or exempted.
<b>China</b>	All components are listed or exempted.
<b>Japan</b>	All components are listed or exempted.
<b>New Zealand</b>	All components are listed or exempted.
<b>Philippines</b>	All components are listed or exempted.
<b>Republic of Korea</b>	All components are listed or exempted.
<b>Taiwan</b>	All components are listed or exempted.
<b>United States</b>	All components are active or exempted.

## Section 16. Any other relevant information

### Hazardous Material Information System (U.S.A.)

Health	/	0
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



### History

<b>Date of printing</b>	2/5/2026
<b>Date of issue/Date of revision</b>	2/5/2026
<b>Date of previous issue</b>	5/17/2018
<b>Version</b>	4

### Key to abbreviations

ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

## Section 16. Any other relevant information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### References

Not available.

### Information contact

**Vanderbilt Global Services, LLC**  
**Corporate Risk Management**  
**1-203-295-2143**

Visit [www.vanderbiltchemicals.com](http://www.vanderbiltchemicals.com) for more information.

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