

SAFETY DATA SHEET

Section 1. Product and company identification

Product name	VANLUBE® 73 SUPER PLUS	<u>In case of emergency</u>
Code	52911	1-203-853-1400
Supplier/Manufacturer	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887
Synonym	Not available.	
Material uses	Lubricant Additive	
Product type	Liquid.	

Section 2. Hazards identification

OSHA/HCS status	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.
Classification of the substance or mixture	Not classified.
<u>GHS label elements</u>	
Signal word	No signal word.
Hazard statements	No known significant effects or critical hazards.
<u>Precautionary statements</u>	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Hazards not otherwise classified	None known.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% by weight
zinc diamyldithiocarbamate	15337-18-5	40
antimony dialkyldithiocarbamate	-	40
petroleum process oil, <3.0% DMSO extractable material	64742-52-5	20

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.

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.
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Section 5. Fire-fighting measures

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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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.

Section 7. Handling and storage

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/personal protection

Control parameters

Occupational exposure limits

None.

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.

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

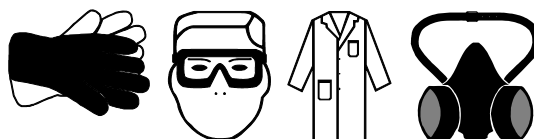
Other skin protection

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. Recommended: Vapor and dust respirator.

Personal protective equipment (Pictograms)



Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Clear to slightly hazy amber
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: $\geq 118^{\circ}\text{C}$ ($\geq 244.4^{\circ}\text{F}$) [ASTM D6450 ASTM D93]
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	Not available.
Relative density	1.05
Solubility	Insoluble in the following materials: cold water.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not applicable.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	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 diamyldithiocarbamate antimony dialkyldithiocarbamate	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Dermal	Rat	>16000 mg/kg (Based on tests of similar materials)	-
	LD50 Oral	Rat	>16400 mg/kg (Based on tests of similar materials)	-
petroleum process oil, <3.0% DMSO extractable material	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

zinc diamyldithiocarbamate: Non-irritating to the skin. (Reconstructed Human Epidermis Test Method)

antimony dialkyldithiocarbamate: Non-irritating to the skin. (Rabbit) (Based on tests of similar materials)

Eyes

zinc diamyldithiocarbamate: Non-irritating to the eyes. (Rabbit)

antimony dialkyldithiocarbamate: Non-irritating to the eyes. (Rabbit) (Based on tests of similar materials)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
zinc diamyldithiocarbamate antimony dialkyldithiocarbamate	skin	Mouse	Not sensitizing
	skin	Mouse	Not sensitizing (Based on tests of similar materials)

Mutagenicity

Product/ingredient name	Test	Experiment	Result
zinc diamyldithiocarbamate	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
antimony dialkyldithiocarbamate	OECD 471	Experiment: In vitro Subject: Bacteria	Negative (Based on tests of similar materials)

Carcinogenicity

Not available.

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
zinc diamyldithiocarbamate	-	-	-	Rat	Oral: 250 mg/kg	-
antimony dialkyldithiocarbamate	-	-	-	Rat	Oral: 1000 mg/kg (Based on tests of similar materials)	-

Teratogenicity

Not available.

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, Inhalation.

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.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

No specific data.

Ingestion

No specific data.

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

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Section 11. Toxicological information

Potential delayed effects Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
zinc diamyldithiocarbamate	Sub-chronic NOAEL Oral	Rat	250 mg/kg	-
antimony dialkyldithiocarbamate	Sub-acute NOEL Oral	Rat	1000 mg/kg (Based on tests of similar materials)	-

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	6250 mg/kg

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
zinc diamyldithiocarbamate	Acute EC50 >1000 mg/l	Micro-organism	3 hours
antimony	Acute NOEC >1000 mg/l	Micro-organism	3 hours
dialkyldithiocarbamate	Acute EC50 >100 mg/l (Based on tests of similar materials)	Algae	72 hours
	Acute EC50 0.054 mg/l mortality immobilization (Based on tests of similar materials)	Daphnia	21 days
	Acute EC50 0.084 mg/l Reproduction (Based on tests of similar materials)	Daphnia	21 days
	Acute NOEC 0.2 mg/l Reproduction (Based on tests of similar materials)	Daphnia	21 days
	Acute NOEC 0.063 mg/l mortality immobilization (Based on tests of similar materials)	Daphnia	21 days
	Acute NOEL 32 mg/l (Based on tests of similar materials)	Algae	72 hours
petroleum process oil, <3.0% DMSO extractable material	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	Daphnia	48 hours

Section 12. Ecological information

	tests of similar materials) Acute NOEL >100 mg/l (Based on tests of similar materials)	Fish	96 hours
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Conclusion/Summary

zinc diamylidithiocarbamate:

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

Product/ingredient name	Test	Result	Dose	Inoculum
zinc diamylidithiocarbamate	OECD 301B	21 % - Not readily - 28 days	-	-
antimony dialkyldithiocarbamate	OECD 301B	20 % - Not readily - 28 days (Based on tests of similar materials)	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
zinc diamylidithiocarbamate	-	-	Not readily
antimony dialkyldithiocarbamate	-	-	Not readily (Based on tests of similar materials)
petroleum process oil, <3.0% DMSO extractable material	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
zinc diamylidithiocarbamate	>9.4	-	high

Mobility in soil

Soil/water partition
coefficient (K_{oc})

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

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

PG* : Packing group

Section 15. Regulatory information

[United States Inventory \(TSCA 8b\)](#) All components are active or exempted.

[U.S. Federal regulations](#)

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

CERCLA: Hazardous substances.: zinc bis(dipentylidithiocarbamate): No RQ is being assigned to the generic or broad class.; antimony dialkyldithiocarbamate: No RQ is being assigned to the generic or broad class.;

Clean Water Act (CWA) 307: zinc bis(dipentylidithiocarbamate); antimony dialkyldithiocarbamate

Clean Air Act Section 112 Listed

(b) Hazardous Air Pollutants (HAPs)

[SARA 302/304](#)

[Composition/information on ingredients](#)

No products were found.

[SARA 304 RQ](#)

Not applicable.

[SARA 311/312](#)

[Classification](#)

Not applicable.

Section 15. Regulatory information

Composition/information on ingredients

No products were found.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	zinc diamylthiocarbamate	15337-18-5	40
	antimony dialkylthiocarbamate	-	40
Supplier notification	zinc diamylthiocarbamate	15337-18-5	40
	antimony dialkylthiocarbamate	-	40

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; antimony dialkylthiocarbamate

Pennsylvania

The following components are listed: ZINC COMPOUNDS; antimony dialkylthiocarbamate

California Prop. 65

None of the components are listed.

International regulations

Australia Inventory (AIC)

All components are listed or exempted.

Canada Inventory

All components are listed or exempted.

China Inventory (IECSC)

All components are listed or exempted.

Europe inventory

All components are listed or exempted.

Japan Inventory (CSCL)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC)

All components are listed or exempted.

Philippines Inventory (PICCS)

All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI)

All components are listed or exempted.

Section 16. Other information

Hazardous Material Identification System (U.S.A.)

Health	1
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. 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.

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

[National Fire Protection Association \(U.S.A.\)](#)



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History

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Version	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 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 for more information.

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