

SAFETY DATA SHEET

GHS
United States

Section 1. Product and company identification

Product name	VANLUBE® 4310	<u>In case of emergency</u>
Code	53245	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	Petroleum additive	
Product type	Liquid.	

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A

GHS label elements

Hazard pictograms



Signal word	Danger
Hazard statements	Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction.

Precautionary statements

General	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	Wear protective gloves. Wear eye or face protection: Recommended: splash goggles. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Response	IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
Storage	Not applicable.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	None known.

Section 2. Hazards identification

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% by weight
phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	90 - 100
distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	1 - 5
zinc bis(dinoylnaphthalenesulphonate)	28016-00-4	1 - 5
2,5-Furandione, dihydro-3-(tetrapropenyl)-	26544-38-7	1 - 5
alkylbenzenesulfonic acid, calcium salts	-	1 - 5

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
Inhalation	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	Causes serious eye damage.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.

Section 4. First aid measures

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain watering redness
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Adverse symptoms may include the following: stomach pains

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

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use carbon dioxide, foam or dry chemical.
Unsuitable extinguishing media	Do not use water jet.

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
sulfur oxides
metal oxide/oxides
Hydrogen sulfide (H₂S)

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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Approach release from upwind. 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. Contaminated absorbent material may pose the same hazard as the spilled product. 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- 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** Do not store above the following temperature: 50°C (122°F). 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. Store locked up. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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. Contaminated work clothing should not be allowed out of the workplace. 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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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	Alcohol-like.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Open cup: 130°C (266°F) [COC]
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	1.17 g/cm ³ [15.6°C (60.1°F)]
Relative density	1.17
Solubility	Not available.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	121°C (249.8°F)
SADT	Not available.
Viscosity	1000 cSt (40°C)

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	Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Incompatible materials	No specific data.
Hazardous decomposition products	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide, alkyl mercaptans, and sulfides may also be released. Under combustion conditions, oxides of the following elements will be formed: phosphorous, sulfur, zinc. Odorous and toxic fumes may form from decomposition of this product if heat sources in excess of 121 °C / 250 °F are used.

Section 10. Stability and reactivity

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
distillates (petroleum), solvent-refined heavy paraffinic	LD50 Dermal	Rabbit	>2000 mg/kg	-
2,5-Furandione, dihydro-3-(tetrapropenyl)-phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	2550 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

Causes skin irritation.

Eyes

Causes serious eye damage.

Sensitization

Not available.

Conclusion/Summary

Skin

May cause sensitization by skin contact.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Conclusion/Summary

This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

Causes serious eye damage.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
pain
watering
redness

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion

Adverse symptoms may include the following:
stomach pains

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.

Potential delayed effects

Not available.

Potential chronic health effects

Not available.

General

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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

Not available.

Section 11. Toxicological information

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
distillates (petroleum), solvent-refined heavy paraffinic	Acute EC50 >1000 mg/l	Daphnia	48 hours
phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	Acute LC50 >5000 mg/l	Fish	96 hours
	Acute EC50 10 mg/l	Algae	72 hours
	Acute EC50 10 mg/l	Daphnia	48 hours
	Acute LC50 46 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
distillates (petroleum), solvent-refined heavy paraffinic	3.9 to 6	-	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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. 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	3082	Environmentally hazardous substance, liquid, n.o.s. (zinc dialkyl dithiophosphate)	9	III	 	Remarks Marine pollutant
IMDG Class	3082	Environmentally hazardous substance, liquid, n.o.s. (zinc dialkyl dithiophosphate)	9	III	 	Remarks Marine pollutant
IATA-DGR Class	3082	Environmentally hazardous substance, liquid, n.o.s. (zinc dialkyl dithiophosphate)	9	III	 	Remarks Marine pollutant

PG* : Packing group

Section 15. Regulatory information

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

[U.S. Federal regulations](#)

TSCA 4(a) proposed test rules: 2,5-Furandione, dihydro-3-(tetrapropenyl)-

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

Clean Water Act (CWA) 307: phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts; zinc bis (dinoylnaphthalenesulphonate)

[SARA 302/304](#)

[Composition/information on ingredients](#)

No products were found.

[SARA 304 RQ](#)

Not applicable.

[SARA 311/312](#)

[Classification](#)

SKIN IRRITATION - Category 2
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1A

[Composition/information on ingredients](#)

Section 15. Regulatory information

Name	%	Classification
zinc bis (dinoynaphthalenesulphonate)	1 - 5	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	90 - 100
	zinc bis(dinoynaphthalenesulphonate)	28016-00-4	1 - 5
Supplier notification	phosphorodithioic acid, mixed O,O-bis (2-ethylhexyl and iso-Bu) esters, zinc salts	68442-22-8	90 - 100
	zinc bis(dinoynaphthalenesulphonate)	28016-00-4	1 - 5

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; MINERAL OIL (UNTREATED and MILDLY TREATED); ZINC compounds

Pennsylvania

The following components are listed: ZINC COMPOUNDS; ZINC COMPOUNDS

California Prop. 65

None of the components are listed.

International regulations

Australia inventory (AICS)

At least one component is not listed.

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 (ENCS)

At least one component is not listed.

Korea inventory (KECI)

At least one component is not listed.

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	2
	Flammability	1
	Physical hazards	0

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.

Section 16. Other information

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



History

Date of printing	11/20/2017
Validation date	11/20/2017
Date of previous issue	8/10/2017
Version	2
Key to abbreviations	<p>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</p>

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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