Vanderbilt Chemicals, LLC
A Wholly Owned Subsidiary of R.T. Vanderbilt Holding Company, Inc.

SAFETY DATA SHEET

GHS
United States
English (US)

Section 1. Product and company identification

Product name VANLUBE® W-324

Code 51155

Supplier/Manufacturer Vanderbilt Chemicals, LLC
30 Winfield Street
Norwalk, CT 06855

In case of emergency
1-203-853-1400

Chemtrec: 1-800-424-9300
Outside US:
+1-703-527-3887

Synonym dialkylammonium tungstate in oil

Material uses Lubricant 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 SENSITIZATION - Category 1A

GHS label elements

Hazard pictograms

Signal word Warning

Hazard statements May cause an allergic skin reaction.

Precautionary statements

Prevention Wear protective gloves: > 8 hours (breakthrough time): neoprene. Avoid breathing vapor. Contaminated work clothing should 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.

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 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% by weight
amines, bis(C11-14-branched and linear alkyl), tungstates	1159919-46-6	30 - 60
petroleum process oil, <3.0% DMSO extractable material	64742-52-5	40 - 70

For Europe, EC number 700-718-0 (bis[C11-14-(branched and linear)-alkyl]aminium nonadecaoxohexatungstate) applies.

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. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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 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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion 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. Get medical attention if adverse health effects persist or are severe. 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 No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact May cause an allergic skin reaction.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No specific data.

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
redness

Ingestion No specific data.

Section 4. First aid measures

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. 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 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
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. Avoid breathing 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

Section 6. Accidental release measures

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 ingest. Avoid breathing vapor or mist. 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

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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
petroleum process oil, <3.0% DMSO extractable material	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **ACGIH TLV (United States).** STEL: 10 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.

Appropriate engineering controls

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

Section 8. Exposure controls/personal protection

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: 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. 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. > 8 hours (breakthrough time): neoprene

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

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Personal protective equipment (Pictograms)

Section 9. Physical and chemical properties

Appearance

Physical state Liquid.

Color Straw to Black.

Odor Not available.

Odor threshold Not available.

pH 6.5 to 6.9 (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Melting point <-80°C (<-112°F) (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Boiling point Not available.

Section 9. Physical and chemical properties

Flash point	Closed cup: >140°C (>284°F) [Pensky-Martens]
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	0.0000005 kPa (0.00000375 mm Hg) [room temperature] (For amines, bis (C11-14-branched and linear alkyl), tungstates)
Vapor density	Not available.
Density	1.05 g/cm³ [25°C (77°F)]
Relative density	1.05
Solubility	Insoluble in the following materials: cold water.
Solubility in water	0.00000948 g/l (For amines, bis(C11-14-branched and linear alkyl), tungstates)
Partition coefficient: n-octanol/water	>8 (For amines, bis(C11-14-branched and linear alkyl), tungstates)
Auto-ignition temperature	349 to 352°C (660.2 to 665.6°F) (For amines, bis(C11-14-branched and linear alkyl), tungstates)
Decomposition temperature	>250°C (>482°F) (For amines, bis(C11-14-branched and linear alkyl), tungstates)
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

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
petroleum process oil, <3.0% DMSO extractable material	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
amines, bis (C11-14-branched and linear alkyl), tungstates	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

Amines, bis(C11-14-branched and linear alkyl), tungstates: Non-irritating to the skin based on data from in vitro skin irritation test using a human skin model. The skin irritation potential was tested through topical application for 15 minutes, after which a 44 hour post-incubation period was allowed.

Eyes

Amines, bis(C11-14-branched and linear alkyl), tungstates: Non-irritating to the eye based on data from the Bovine Corneal Opacity and Permeability Test (BCOP). The eye irritation potential was tested through topical application for 10 minutes (+ or - 1 minute), after which an in vitro irritancy score (IVIS) of 2.6 was given.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
amines, bis (C11-14-branched and linear alkyl), tungstates	skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
amines, bis (C11-14-branched and linear alkyl), tungstates	OECD 471	Experiment: In vitro Subject: Bacteria	Negative

Carcinogenicity

Not available.

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 Routes of entry anticipated: Oral, Dermal, Eyes.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact 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 No specific data.

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
irritation
redness

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.

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.

Other information Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
amines, bis (C11-14-branched and linear alkyl), tungstates	Acute EC50 0.00088 mg/l	Algae	72 hours
	Acute EC50 0.019 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
	Acute NOEC 0.00015 mg/l	Algae	72 hours
	Acute NOEL 100 mg/l	Fish	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
amines, bis (C11-14-branched and linear alkyl), tungstates	OECD 301B	31 % - Not readily - 14 days	23.1 mg/l	Activated sludge

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
amines, bis (C11-14-branched and linear alkyl), tungstates	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
amines, bis (C11-14-branched and linear alkyl), tungstates	>8	-	High

Mobility in soil

Soil/Water partition coefficient Not available.

Other adverse effects No known significant effects or critical hazards.

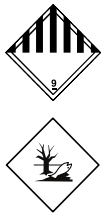
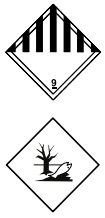
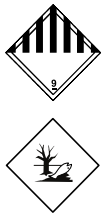
Section 13. Disposal considerations

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. 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.

Section 13. Disposal considerations

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	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (amines, bis (C11-14-branched and linear alkyl), tungstates)	9	III		**Remarks** Marine pollutant
IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (amines, bis (C11-14-branched and linear alkyl), tungstates)	9	III		**Remarks** Marine pollutant
IATA-DGR Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (amines, bis (C11-14-branched and linear alkyl), tungstates)	9	III		**Remarks** Marine pollutant

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

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

Section 15. Regulatory information

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 SKIN SENSITIZATION - Category 1A

Composition/information on ingredients

Name	%	Classification
amines, bis(C11-14-branched and linear alkyl), tungstates	30 - 60	SKIN SENSITIZATION - Category 1A

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: MINERAL OIL (UNTREATED and MILDLY TREATED)

Pennsylvania None of the components are listed.

California Prop. 65 None of the components are listed.

Inventory list

For Europe, EC number 700-718-0 (bis[C11-14-(branched and linear)-alkyl]aminium nonadecaoxohexatungstate) applies.

Australia Not determined.

Canada At least one component is not listed in DSL but all such components are listed in NDSL.

China Not determined.

Japan Not determined.

New Zealand Not determined.

Philippines Not determined.

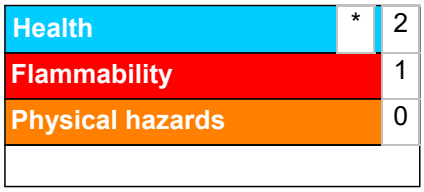
Republic of Korea All components are listed or exempted.

Should you wish to export products containing this product into Korea, contact Product Risk Manager at Vanderbilt Global Services, LLC at 203-295-2143 for more information.

Taiwan All components are listed or exempted.

Section 16. Other information

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



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.

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

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

History

Date of printing	3/19/2025
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Date of previous issue	9/20/2019
Version	3
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.

Notice to reader

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