

# SAFETY DATA SHEET

GHS  
United States  
English (US)

## Section 1. Product and company identification

<b>Product name</b>	<b>VANLUBE® 704S</b>	<b><u>In case of emergency</u></b>
<b>Code</b>	52669	1-203-853-1400
<b>Supplier/Manufacturer</b>	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887
<b>Synonym</b>	Not available.	
<b>Material uses</b>	Lubricant Additive	
<b>Product type</b>	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** ACUTE TOXICITY (inhalation) - Category 4  
SKIN CORROSION/IRRITATION - Category 2

### GHS label elements

#### Hazard pictograms



#### Signal word

Warning

#### Hazard statements

Harmful if inhaled.  
Causes skin irritation.

### Precautionary statements

#### Prevention

Wear protective gloves. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

#### Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention.

#### 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
barium sulfonate blend	-	50 - 55
base oil	-	45 - 50

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.

#### Inhalation

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. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. 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. 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. Continue to rinse for at least 10 minutes. Get medical attention. 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

Harmful if inhaled.

##### Skin contact

Causes skin irritation.

##### Ingestion

No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

##### Eye contact

Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

##### Inhalation

No specific data.

## Section 4. First aid measures

<b>Skin contact</b>	Adverse symptoms may include the following: irritation redness
<b>Ingestion</b>	No specific data.

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

<b>Notes to physician</b>	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.
<b>Specific treatments</b>	No specific treatment.
<b>Protection of first-aiders</b>	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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None known.

### Specific hazards arising from the chemical

<b>Hazardous thermal decomposition products</b>	In a fire or if heated, a pressure increase will occur and the container may burst.  Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
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### 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

<b>For non-emergency personnel</b>	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.
<b>For emergency responders</b>	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".

## Section 6. Accidental release measures

**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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.

Handling: Product is a very viscous liquid and may require heating to 50-60 degrees C for handling purposes.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

### Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

## 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. 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. 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

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	Brown. [Dark]
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: 188°C (370.4°F) [Continuously Closed Cup]

## Section 9. Physical and chemical properties

<b>Burning time</b>	Not applicable.
<b>Burning rate</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Lower and upper explosive (flammable) limits</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Density</b>	0.99 g/cm <sup>3</sup> [25°C (77°F)]
<b>Relative density</b>	Not available.
<b>Solubility</b>	Insoluble in the following materials: cold water.
<b>Solubility in water</b>	Not available.
<b>Partition coefficient: n-octanol/water</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>SADT</b>	Not available.
<b>Viscosity</b>	Kinematic (room temperature): 1.05 cm <sup>2</sup> /s (105 cSt) [100°C]

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	No specific data.
<b>Hazardous decomposition products</b>	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
base oil	LC50 Inhalation Vapor	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
barium sulfonate blend	LC50 Inhalation Vapor	Rat	>21 mg/l Based on tests of similar materials	1 hours
	LD50 Dermal	Rabbit	>10000 mg/kg Based on tests of similar materials	-
	LD50 Oral	Rat	1750 mg/kg Based on tests of similar materials	-
A minor component of barium sulfonate blend	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	720 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
barium sulfonate blend	Skin - Moderate irritant	Rabbit	-	0.5 Milliliters	-

### Conclusion/Summary

#### Skin

Base oil: Non-irritating to the skin. (Rabbit)

#### Eyes

Barium sulfonate blend: Non-irritating to the eyes. (Based on testing of similar products and/or the components.)

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
base oil	skin	Guinea pig	Not sensitizing
A minor component of barium sulfonate blend	skin	Guinea pig	Not sensitizing

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
base oil	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 474	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
barium sulfonate blend	-	Experiment: In vitro Subject: Bacteria	Negative
A minor component of barium sulfonate blend	-	Experiment: In vitro Subject: Bacteria	Negative

### Carcinogenicity

Not available.

## Section 11. Toxicological information

### Reproductive toxicity

Not available.

### 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

Not available.

### Potential acute health effects

#### **Eye contact**

No known significant effects or critical hazards.

#### **Inhalation**

Harmful if inhaled.

#### **Skin contact**

May be harmful in contact with skin. Causes skin irritation.

#### **Ingestion**

May be harmful if swallowed.

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

#### **Eye contact**

Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

#### **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.



## Section 11. Toxicological information

<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.
<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	2500 mg/kg
Dermal	2500 mg/kg
Inhalation (dusts and mists)	1.5 mg/l

**Other information** Not available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
base oil A minor component of barium sulfonate blend	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 52 mg/l Based on tests of similar materials	Algae	48 hours
	Acute EC50 55 mg/l Based on tests of similar materials	Daphnia	48 hours
	Acute LC50 55 mg/l Based on tests of similar materials	Fish	96 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
base oil	-	31 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
base oil	-	-	Inherent

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
base oil	>6	-	High

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** 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	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 4(a) proposed test rules:** A minor component of barium sulfonate blend

**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

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

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

## Section 15. Regulatory information

### SARA 302/304

#### Composition/information on ingredients

No products were found.

### SARA 304 RQ

Not applicable.

### SARA 311/312

#### Classification

ACUTE TOXICITY (inhalation) - Category 4  
SKIN IRRITATION - Category 2

#### Composition/information on ingredients

Name	%	Classification
barium sulfonate blend	100	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	barium sulfonate blend	-	100
<b>Supplier notification</b>	barium sulfonate blend	-	100

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

None of the components are listed.

#### New York

None of the components are listed.

#### New Jersey

The following components are listed: barium sulfonate blend

#### Pennsylvania

The following components are listed: barium sulfonate blend

#### California Prop. 65

None of the components are listed.

### International regulations

#### Australia Inventory (AIIIC)

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	2
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.

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

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



Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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

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