SAFETY DATA SHEET

GHS United States

Section 1. Product and company identification

/anderbilt Chemicals, LLC

Product name	VANLUBE® 972M	In case of emergency
Code	53340	1-203-853-1400 Chemtrec: 1-800-424-9300
Supplier/Manufacturer	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855	Outside US: +1-703-527-3887
Synonym	Not available.	
Material uses	Lubricant additives	

Section 2. Hazards identification

Liquid.

Product type

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1B
	Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 14%
GHS label elements	
Hazard pictograms	
Signal word	Danger
Hazard statements	Causes serious eye damage. May cause an allergic skin reaction.
Precautionary statements	
Prevention	Wear protective gloves. Wear eye or face protection: Recommended: splash goggles. Avoid breathing vapor. Wash hands thoroughly after handling. 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. 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 3. Composition/information on ingredients

Substance/mixture

Mixture

Ingredient name	CAS number	% by weight
butoxytriglycol	-	40 - 50
1,3,4-thiadiazole dimer derivative	-	14 - 18
polyethylene glycol	25322-68-3	10 - 20
dithiobis-1,3,4-thiadiazole derivative	-	6 - 13

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. 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	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/effect	<u>cts, acute and delayed</u>
Potential acute health effects	
Eye contact	Causes serious eye damage.
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/sympton	<u>15</u>

Section 4. First aid measures

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 medi	ical 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. 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	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
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.
Remark	Hydrogen sulfide gas may be released at high temperatures. Emits toxic fumes when heated.
Remark(s)	Hydrogen sulfide gas may be released at high temperatures. Emits toxic fumes when heated.

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 container.	
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	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

Ingredient name	Exposure limits
polyethylene glycol	AIHA WEEL (United States, 10/2011).
	TWA: 10 mg/m ³ 8 hours. Form: Aerosol
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.
ndividual protection measur	<u>res</u>
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	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

<u>Appearance</u>	
Physical state	Liquid.
Color	Amber.
Odor	Not available.
Odor threshold	Not available.
рН	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: 148°C (298.4°F) [ASTM D6450]
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Hydrogen sulfide gas may be released at high temperatures. Emits toxic fumes when heated.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	1.226 g/cm³ [25°C (77°F)]
Relative density	1.2
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.
Aerosol product	

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 10. Stability and reactivity

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
butoxytriglycol	LD50 Oral	Rat	5300 mg/kg	-
1,3,4-thiadiazole dimer derivative	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2500 mg/kg	-
polyethylene glycol	LD50 Oral	Rat	27500 mg/kg	-
dithiobis-1,3,4-thiadiazole derivative	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
butoxytriglycol 1,3,4-thiadiazole dimer	Eyes - Severe irritant Eyes - Mild irritant	Rabbit Rabbit	-	50 milligrams -	-
derivative polyethylene glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary

Skin

Eyes

dithiobis-1,3,4-thiadiazole derivative: Non-irritating to the skin. (Rabbit) 1,3,4-thiadiazole dimer derivative: Non-irritating to the skin. (Rabbit) dithiobis-1,3,4-thiadiazole derivative: Non-irritating to the eyes. (Rabbit)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
1,3,4-thiadiazole dimer derivative	skin	Mouse	Sensitizing
dithiobis-1,3,4-thiadiazole derivative	skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
1,3,4-thiadiazole dimer derivative	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Human	Negative
dithiobis-1,3,4-thiadiazole derivative	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 487	Experiment: In vitro Subject: Mammalian-Animal	Negative

Carcinogenicity

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Section 11. Toxicological information

Not available.

Reproductive toxicity

Product/ingredient name	Maternal	Fertility	Development	Species	Dose	Exposure
	toxicity		toxin			
dithiobis-1,3,4-thiadiazole derivative	-	-	-		Oral: 300 mg/kg	47 days

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 entry anticipated: Oral, Dermal, Inhalation.

routes of exposure

Potential acute health effectsEye contactCauses serious eye damage.InhalationNo known significant effects or critical hazards.Skin contactMay cause an allergic skin reaction.IngestionNo 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 effect	s and also chronic effects from short and long term exposure
Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate Not available. effects

Potential delayed effects Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
1,3,4-thiadiazole dimer derivative	Sub-acute NOAEL Oral	Rat	150 mg/kg	28 days
dithiobis-1,3,4-thiadiazole derivative	Sub-acute NOAEL Oral	Rat	1000 mg/kg	14 days
General	Once sensitized, a severe a to very low levels.	allergic reaction ma	ay occur when sub	sequently exposed
Carcinogenicity	No known significant effect	s or critical hazard	6.	
Mutagenicity	No known significant effect	s or critical hazard	S.	
Teratogenicity	No known significant effect	s or critical hazard	S.	
Developmental effects	No known significant effect	s or critical hazard	3.	
Fertility effects	No known significant effect	s or critical hazard	3.	

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
	20911.05 mg/kg
Dermal	10191.29 mg/kg

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
butoxytriglycol	Acute EC50 62.5 mg/l	Algae	72 hours
	Acute EC50 >500 mg/l	Daphnia	48 hours
	Acute LC50 2200 to 4600 mg/l	Fish	96 hours
1,3,4-thiadiazole dimer derivative	Acute EC50 14 mg/l	Algae	72 hours
	Acute EC50 18 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
	Acute NOEC 10 mg/l	Algae	72 hours
	Acute NOEC 0.56 mg/l	Daphnia	48 hours
	Acute NOEC 100 mg/l	Fish	96 hours
dithiobis-1,3,4-thiadiazole derivative	Acute EC10 9.4 mg/l	Algae	72 hours
	Acute EC10 3.1 mg/l	Micro-organism	3 hours
	Acute EC50 20 mg/l	Algae	72 hours
	Acute EC50 3 mg/l	Daphnia	48 hours
	Acute EC50 >454 mg/l	Fish	96 hours
	Acute NOEC 1 mg/l	Micro-organism	3 hours

Persistence and degradability

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Section 12. Ecological information

Product/ingredient name	Test	Result		Dose		Inoculum
butoxytriglycol 1,3,4-thiadiazole dimer derivative dithiobis-1,3,4-thiadiazole derivative	OECD 301D OECD 301B OECD 301B	41 % - Not	dily - 28 days readily - 28 days eadily - 28 days			- -
Product/ingredient name	Aquatic half-life		Photolysis		Biodeg	radability
butoxytriglycol 1,3,4-thiadiazole dimer derivative dithiobis-1,3,4-thiadiazole derivative	- -		-		Readily Not rea Not rea	ıdily

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
butoxytriglycol	0.51	-	low
polyethylene glycol	-	3.2	low

Mobility in soil

Soil/water partition coefficient (Koc)

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

Section 14. Transport information

Section 14. 1	ransport	mormation				
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

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

SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B

Composition/information on ingredients

Name	%	Classification
butoxytriglycol 1,3,4-thiadiazole dimer derivative dithiobis-1,3,4-thiadiazole derivative	14 - 18	SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B SKIN SENSITIZATION - Category 1B

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	butoxytriglycol	-	40 - 50
Supplier notification	butoxytriglycol	-	40 - 50

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

State regulations

Massachusetts

None of the components are listed.

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Section 15. Regulatory information

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New York	None of the components are listed.
New Jersey	The following components are listed: GLYCOL ETHERS
Pennsylvania	The following components are listed: GLYCOL ETHERS
California Prop. 65	None of the components are listed.
International regulations	
Australia inventory (AIIC)	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	At least one component is not listed in EINECS but all such components are listed in ELINCS. Please contact your supplier for information on the inventory status of this material.
Japan inventory (CSCL)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
New Zealand Inventory of Che (NZIoC)	emicals At least one component is not listed.
Philippines inventory (PICCS)	At least one component is not listed.
Taiwan Chemical Substances Inventory (TCSI)	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. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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.

Section 16. Other information

History

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Version	5
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 = Internediate 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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