

SAFETY DATA SHEET

GHS

United States

Section 1. Product and company identification

Product name VANLUBE® 4350 In case of emergency

1-203-853-1400

Code 52510

Supplier/Manufacturer

Chemtrec: 1-800-424-9300

Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855

Outside US: +1-703-527-3887

Synonym Not available.

Material uses Lubricant additives

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 SKIN IRRITATION - Category 2 substance or mixture 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

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.

Dispose of contents and container in accordance with all local, regional, national and

international regulations.

Hazards not otherwise

classified

None known.

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Section 3. Composition/information on ingredients

Substance/mixture

Mixture

Ingredient name	CAS number	% by weight
zinc bis[o,o-bis(ethylhexyl)] bis(dithiophosphate)	4259-15-8	55 - 60
distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	10 - 15
paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	5 - 10
benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	5 - 10
2,5-Furandione, dihydro-3-(tetrapropenyl)-	26544-38-7	1 - 5
N,N-bis(2-ethylhexyl)-ar-methyl-1H-benzotriazole-1-methanamine	94270-86-7	1 - 5
zinc bis(dinoylnaphthalenesulphonate)	28016-00-4	1 - 5
amines, C12-14-alkyl, C6-10-alkyl phosphates	68603-55-4	1 - 5
distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	1 - 5
carbonic acid calcium salt (1:1)	471-34-1	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. 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/effects, acute and delayed

Potential acute health effects

Eye contact Causes serious eye damage.

Inhalation No known significant effects or critical hazards.

Validation date : 10/2/2019 Date of previous issue : No previous validation 2/13

VANLUBE® 4350

Section 4. First aid measures

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:

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 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-aidersNo 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 water spray (fog), foam, dry chemical or CO_2 .

Unsuitable extinguishing

media

Do not use water jet.

Specific hazards arising

from the chemical

Decomposition products may include the following materials:

Hazardous thermal decomposition products

carbon dioxide

carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides metal oxide/oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable

In a fire or if heated, a pressure increase will occur and the container may burst.

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.

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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. See Section 10 for incompatible materials before handling or use.

Validation date : 10/2/2019 Date of previous issue : No previous validation 4/13

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
carbonic acid calcium salt (1:1)	NIOSH REL (United States, 10/2016). TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total

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)



Validation date : 10/2/2019 Date of previous issue : No previous validation 5/13

Section 9. Physical and chemical properties

Appearance

Physical state Liquid.

Color Amber. [Dark] Odor Characteristic. **Odor threshold** Not available. Ha Not available. **Melting point** Not available. **Boiling point** Not available.

Open cup: 130°C (266°F) [Cleveland.] Flash point

Burning time Not applicable. **Burning rate** Not applicable. **Evaporation rate** Not available. Not available. Flammability (solid, gas) Lower and upper explosive Not available.

(flammable) limits

Vapor pressure Not available. Vapor density Not available.

1.08 g/cm3 [15.6°C (60.1°F)] **Density**

Relative density Not available. Not available. Solubility Solubility in water Not available. Partition coefficient: n-Not available.

octanol/water

Auto-ignition temperature Not available. **Decomposition temperature** Not available. **SADT** Not available.

Viscosity Kinematic (40°C (104°F)): 2.25 cm²/s (225 cSt)

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 oxiders, excessive heat, sparks or open flame.

Incompatible materials Avoid strong acids and strog oxidizers.

Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition products should

not be produced.

Validation date 10/2/2019 Date of previous issue : No previous validation 6/13

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
zinc bis[o,o-bis(ethylhexyl)] bis(dithiophosphate)	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3100 mg/kg	-
distillates (petroleum), hydrotreated heavy paraffinic	LD50 Oral	Rat	>15000 mg/kg	-
2,5-Furandione, dihydro-3- (tetrapropenyl)-	LD50 Oral	Rat	2550 mg/kg	-
distillates (petroleum), solvent-refined heavy paraffinic	LD50 Dermal	Rabbit	>2000 mg/kg	-
carbonic acid calcium salt (1: 1)	LD50 Oral LD50 Dermal	Rat Rat	>5000 mg/kg >2000 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 an allergic skin reaction.

Mutagenicity

Not available.

Conclusion/Summary No information on significant adverse effects.

Carcinogenicity

Not available.

Conclusion/Summary None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Reproductive toxicity

Not available.

Conclusion/Summary No information on significant adverse effects.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Validation date : 10/2/2019 Date of previous issue : No previous validation 7/13

Section 11. Toxicological information

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 Causes serious eye damage.

Inhalation No known significant effects or critical hazards.

Skin contactCauses skin irritation. May cause an allergic skin reaction.

Ingestion May be harmful if swallowed.

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 Not available.

effects

Potential delayed effects Not available.

Long term exposure

Potential immediate Not available.

effects

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.

CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

Validation date : 10/2/2019 Date of previous issue : No previous validation 8/13

VANLUBE® 4350

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
	3732.4 mg/kg 32083.3 mg/kg

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
zinc bis[o,o-bis(ethylhexyl)] bis(dithiophosphate)	Acute EC50 1 to 5 mg/l	Algae	96 hours
	Acute LC50 10 to 35 mg/l	Fish	96 hours
	Acute EC50 1 to 1.5 mg/l	Daphnia	48 hours
distillates (petroleum), hydrotreated heavy paraffinic	Acute LC50 >1000 mg/l	Daphnia	48 hours
liyarəti satea risavy paranınıs	Acute LC50 >5000 mg/l	Fish	96 hours
distillates (petroleum), solvent-refined heavy paraffinic	Acute EC50 >1000 mg/l	Daphnia	48 hours
	Acute LC50 >5000 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

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

Validation date : 10/2/2019 Date of previous issue : No previous validation 9/13

Section 13. Disposal considerations

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	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Zinc Dialkyl Dithiophosphate)	9	III	*	Remarks Marine pollutant
TDG Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Zinc Dialkyl Dithiophosphate)	9	III	*	Remarks Marine pollutant
ADR/RID Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Zinc Dialkyl Dithiophosphate)	9	III	1 1 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3	Remarks Marine pollutant
IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Zinc Dialkyl Dithiophosphate)	9	111	1 1 1 2 2 2 2 2 3 3 3 3 4 3 3 3 3 4 3 3 3 3 4 3 3 3 3 4 3 3 3 3 3 4 3 3 3 3 4 3 3 3 3 3 3 3 3 3 3	Remarks Marine pollutant
IATA-DGR Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains: Zinc Dialkyl Dithiophosphate)	9	III	*	Remarks Marine pollutant

PG* : Packing group

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Section 15. Regulatory information

<u>United States inventory (TSCA 8b)</u> 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: zinc bis[o,o-bis(ethylhexyl)] bis(dithiophosphate); zinc bis(dinoylnaphthalenesulphonate)

Clean Air Act Section 112

Not listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Not listed

Class I Substances

Clean Air Act Section 602 Not

Class II Substances

Not listed

DEA List I Chemicals

Not listed

(Precursor Chemicals)

DEA List II Chemicals

Not listed

(Essential Chemicals)

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

No products were found.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements		4259-15-8 28016-00-4	55 - 60 1 - 5
Supplier notification		4259-15-8 28016-00-4	55 - 60 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; MINERAL OIL,

PETROLEUM PARAFFIN OILS, CATALYTIC DEWAXED HEAVY; OIL MIST, MINERAL;

calcium carbonate

New York None of the components are listed.

New Jersey The following components are listed: ZINC compounds; ZINC compounds

Pennsylvania The following components are listed: ZINC COMPOUNDS; ZINC COMPOUNDS;

calcium carbonate

California Prop. 65 None of the components are listed.

International regulations

Australia inventory (AICS) All components are listed or exempted.

Validation date : 10/2/2019 Date of previous issue : No previous validation 11/13

Section 15. Regulatory information

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) All components are listed or exempted.

Korea inventory (KECI) All components are listed or exempted.

New Zealand Inventory of Chemicals All components are listed or exempted.

New Zealand Inventory of Chemicals All components are listed (NZIoC)

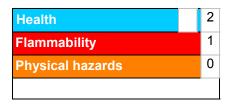
Philippines inventory (PICCS) All components are listed or exempted.

Taiwan Chemical Substances All components are listed or exempted.

Inventory (TCSI)

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.

History

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Version 1

Validation date : 10/2/2019 Date of previous issue : No previous validation 12/13

VANLUBE® 4350

Section 16. Other information

Key to abbreviations ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References Not available.

Information contact Vanderbilt Global Services, LLC

Corporate Risk Management

1-203-295-2143

Visit www.vanderbiltchemicals.com for more information.

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Validation date : 10/2/2019 Date of previous issue : No previous validation 13/13