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® 1802

Code 51305

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 Not available.

Material uses Petroleum additive

Product type Liquid.

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture TOXIC TO REPRODUCTION - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 33.5%

GHS label elements

Hazard pictograms

Signal word Warning

Hazard statements Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear protective clothing: Recommended: lab coat. Wear eye or face protection: Recommended: splash goggles.

Response IF exposed or concerned: Get medical advice or attention.

Storage Store locked up.

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
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	50 - 70
process oil	-	20 - 40
alkylated phenyl alpha napthylamine	-	1 - 20
diphenylamine	122-39-4	<1

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 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. 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. 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 No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No specific data.

Inhalation No specific data.

Skin contact No specific data.

Ingestion No specific data.

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.

Section 4. First aid measures

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.

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
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

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.

Section 6. Accidental release measures

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). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
diphenylamine	**ACGIH TLV (United States, 3/2020).** TWA: 10 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 10 mg/m³ 10 hours.

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.

Section 8. Exposure controls/personal protection

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: 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.

Body protection
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat

Other skin protection
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Personal protective equipment (Pictograms)

Section 9. Physical and chemical properties

Appearance

Physical state Liquid.

Color Amber.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point Not available.

Boiling point Not available.

Flash point Closed cup: 172°C (341.6°F) [ASTM D6450]

Burning time Not applicable.

Burning rate Not applicable.

Evaporation rate Not available.

Section 9. Physical and chemical properties

Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	0.95 g/cm³ [25°C (77°F)]
Relative density	Not available.
Solubility	Partially soluble 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	Kinematic (100°C): 0.054 cm^2/s (5.4 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	May discolor on exposure to light.
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

Product/ingredient name	Result	Species	Dose	Exposure
diphenylamine	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Mouse	2720 mg/kg	-
	LD50 Oral	Rat	>800 mg/kg	-
	LD50 Oral	Rat	1165 mg/kg	-
alkylated phenyl alpha napthylamine	LC50 Inhalation Vapor	Rat	>0.4 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
benzenamine, N-phenyl-, reaction products with	LD50 Dermal	Rat	>2000 mg/kg	-

Section 11. Toxicological information

2,4,4-trimethylpentene	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene: Non-irritating to the skin. (Rabbit)
alkylated phenyl alpha napthylamine: Non-irritating to the skin. (Reconstructed Human Epidermis Test Method)
diphenylamine: Non-irritating to the skin. (Rabbit)

Eyes

benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene: Non-irritating to the eyes. (Rabbit)
alkylated phenyl alpha napthylamine: Non-irritating to the eyes. (EpiOcular human cell construct)
diphenylamine: Causes eye irritation. (Rabbit)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
diphenylamine	skin	Guinea pig	Not sensitizing
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	skin	Guinea pig	Not sensitizing
alkylated phenyl alpha napthylamine	skin	Guinea pig	Not sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
diphenylamine	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 486	Experiment: In vivo Subject: Mammalian-Animal	Negative
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
alkylated phenyl alpha napthylamine	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 471	Experiment: In vitro Subject: Mammalian-Animal	Negative

Carcinogenicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
diphenylamine	Positive - Oral - TC	Rat - Male, Female	0 to 250 ppm	2 years

Conclusion/Summary

The International Agency for Research on Cancer (IARC) determined that there was inadequate evidence in humans and sufficient evidence in experimental animals for cancer. The overall evaluation is Group 2B. OSHA indicates that when present in mixtures at concentrations of less than 1 percent, the label warning is optional.

Product/ingredient name	OSHA	IARC	NTP
diphenylamine	-	2B	-

Reproductive toxicity

Not available.

Conclusion/Summary

benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene: Suspected of damaging fertility based on a reproductive/developmental toxicity screening test (OECD 421) as a range finder followed by an extended one-generation reproductive toxicity study (OECD 443).

alkylated phenyl alpha napthylamine: Based on these results, a parental, reproduction and developmental No Observed Adverse Effect Level (NOAEL) of at least 1000 mg/kg bw/day was derived.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
diphenylamine	Category 2	oral	blood system, kidneys, liver, spleen

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 No known significant effects or critical hazards.

Skin contact May be harmful in contact with skin.

Ingestion No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation No specific data.

Skin contact No specific data.

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

Product/ingredient name	Result	Species	Dose	Exposure
process oil	Sub-chronic LOAEL Oral	Rat	125 mg/kg (Based on tests of similar materials)	-
diphenylamine	Chronic LOAEL Oral Chronic NOAEL Oral	Rat Rat	30 mg/kg 3 mg/kg	- -

Conclusion/Summary alkylated phenyl alpha napthylamine: Based on the results presented, a No Observed Adverse Effect Level (NOAEL) of at least 1000 mg/kg bw/day was derived.

General No known significant effects or critical hazards.

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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 Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal	23809.52 mg/kg 2500 mg/kg

Other information benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene: Based on available data, the classification criteria for specific target organ toxicity (STOT) repeated exposure are not met.

A combined repeated-dose/reproductive/developmental toxicity screening test in rats via gavage was conducted at levels of 25, 75 and 225 mg/kg/bw/day. No deaths or treatment-related signs of toxicity, behavioral assessments, functional performance or sensory reactivity were noted at any dose. Hepatic toxicity was noted for animals in both sexes at 225 mg/kg bw/day.

Section 11. Toxicological information

Repeated dose toxicity study, rat, gavage, 28 days: LOEL = 125 mg/kg bw/day

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
diphenylamine	Acute EC50 2.17 mg/l	Algae	72 hours
	Acute EC50 2 mg/l	Daphnia	48 hours
	Acute EC50 1.2 mg/l	Daphnia	48 hours
	Acute LC50 2.2 mg/l	Fish	96 hours
	Acute NOEC 0.37 mg/l	Algae	72 hours
	Chronic NOEC 0.16 mg/l	Daphnia	21 days
alkylated phenyl alpha napthylamine	Acute EC50 >100 mg/l No effect up to the limit of solubility.	Algae	72 hours
	Acute EC50 >100 mg/l No effect up to the limit of solubility.	Daphnia	48 hours
	Acute IC50 >100 mg/l No effect up to the limit of solubility.	Micro-organism	3 hours
	Acute LC50 >100 mg/l No effect up to the limit of solubility.	Fish	96 hours
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 51 mg/l	Daphnia	48 hours
	Acute IC50 >100 mg/l	Micro-organism	3 hours
	Acute LC50 >100 mg/l	Fish	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
diphenylamine	OECD 301D	26 % - Not readily - 28 days	-	-
alkylated phenyl alpha napthylamine	OECD 301B	0 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	-	-	Not readily
alkylated phenyl alpha napthylamine	-	-	Not readily
diphenylamine	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	5.1	1730	High
alkylated phenyl alpha napthylamine	-	17	Low
diphenylamine	3.5	151.36	Low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) Not available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	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) PAIR: diphenylamine

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

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

Section 15. Regulatory information

SARA 311/312

Classification TOXIC TO REPRODUCTION - Category 2

Composition/information on ingredients

Name	%	Classification
diphenylamine	<1	ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	50 - 70	TOXIC TO REPRODUCTION - Category 2

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	diphenylamine	122-39-4	0.05 - 0.693
Supplier notification	diphenylamine	122-39-4	0.05 - 0.693

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: process oil

New York None of the components are listed.

New Jersey The following components are listed: Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

Pennsylvania The following components are listed: Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

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 All components are listed or exempted.

Japan Inventory (CSCL) All components are listed or exempted.

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

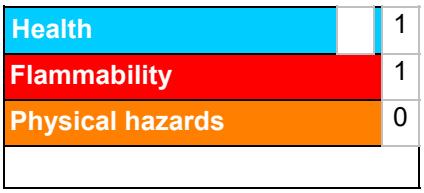
New Zealand Inventory of Chemicals (NZIoC) All components are listed or exempted.

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.)



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

Date of printing	6/5/2024
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Version	7
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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