

SAFETY DATA SHEET

Section 1. Identification

Product identifier	VANLUBE® 672
Product code	52203
Other means of identification	Amine phosphate compounds
Product type	Liquid.
Material uses	Lubricant Additive
Supplier/Manufacturer	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855 1-203-853-1400
Emergency telephone number	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887

Section 2. Hazard(s) 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 (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause genetic defects.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure. (nervous system)

Precautionary statements

Section 2. Hazard(s) identification

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: chemical-resistant protective suit. Wear eye or face protection: Recommended: splash goggles. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before reuse. 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 doctor.

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 and ingredient information

Substance/mixture

Substance

Other means of identification

Amine phosphate compounds

Ingredient name	CAS number	% by weight
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	-	98 - 100
trimethyl phosphate	512-56-1	1 - 2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

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.

Section 4. First aid measures

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. 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.
Skin contact	Causes severe burns. May cause an allergic skin reaction.
Ingestion	Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain watering redness
Inhalation	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

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

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. 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.

Section 4. First aid measures

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 CO₂.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus 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. 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

Section 6. Accidental release measures

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. 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 breathe vapor or mist. Do not ingest. Avoid release to the environment. 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 and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	None.
trimethyl phosphate	None.

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.

Section 8. Exposure controls and personal protection

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: chemical-resistant protective suit

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	Yellow. [Light]
Odor	Musty
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: 101.9°C (215.4°F) [EU A.9] [Product does not sustain combustion.]
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	1.02 g/cm ³ [15.6°C (60.1°F)]

Section 9. Physical and chemical properties

Relative density Not available.

Solubility(ies)

Media	Result
cold water	Very slightly soluble

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 Dynamic (room temperature): Not available.
Kinematic (room temperature): 648305 mm²/s (648305 cSt) [at 25°C]
Kinematic (40°C (104°F)): Not available.

Section 10. Stability and reactivity

Reactivity No specific test data related to reactivity available for this product or its ingredients.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid No specific data.

Incompatible materials Reactive or incompatible with the following materials:
oxidizing materials

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
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	LD50 Oral	Rat	300 mg/kg	-
trimethyl phosphate	LD50 Dermal	Rat	3400 to 3440 mg/kg	-
	LD50 Oral	Rat	840 mg/kg	-

Irritation/Corrosion

Not available.

Section 11. Toxicological information

Conclusion/Summary

Skin

proprietary amine phosphate compounds (NJTSR No. 800983-5011P): Causes severe skin burns.

Eyes

proprietary amine phosphate compounds (NJTSR No. 800983-5011P): Causes serious eye damage. (Bovine Corneal Opacity and Permeability Test Method)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 490	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 487	Experiment: In vitro Subject: Mammalian-Human	Negative
trimethyl phosphate	-	Subject: Mammalian-Animal	Positive

Conclusion/Summary

In a dominant lethal assay, heritable translocation assay and micronucleus assay using trimethyl phosphate, rodents tested positive for mutagenicity.

Carcinogenicity

Not available.

Conclusion/Summary

Trimethyl phosphate shows limited evidence of a carcinogenic effect. Carcinogenicity results were both positive and negative in a two year gavage study with rats and mice using trimethyl phosphate. In a 30 month drinking water study using trimethyl phosphate, results were negative when tested on rats.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	-	-	-	Rat	Oral: 75 mg/kg	28 days

Teratogenicity

Not available.

Conclusion/Summary

In various teratogenicity tests using trimethyl phosphate, rats, mice and rabbits tested positive for spermatogenesis.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
trimethyl phosphate	Category 2	Not determined	nervous system

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Eyes.

Potential acute health effects

Eye contact

Causes serious eye damage.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes severe burns. May be harmful in contact with skin. May cause an allergic skin reaction.

Ingestion

Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
pain
watering
redness

Inhalation

Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact

Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion

Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	Chronic NOAEL Oral	Rat	75 mg/kg	-

General	May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	May cause genetic defects.
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	500 mg/kg
Dermal	2500 mg/kg

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	Acute EC50 1.9 mg/l	Algae	72 hours
	Acute EC50 6.8 mg/l	Daphnia	48 hours
	Acute EC50 48 mg/l	Micro-organism	3 hours
	Acute LC50 18 mg/l	Fish	96 hours
	Acute NOEC 0.1 mg/l	Algae	72 hours
	Acute NOEC 3.9 mg/l	Daphnia	48 hours
	Acute NOEC 12 mg/l	Fish	96 hours
trimethyl phosphate	Acute NOEC 4 mg/l	Micro-organism	3 hours
	Acute LC50 7010 mg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	OECD 301B	9 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	-	-	Not readily

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
trimethyl phosphate	-0.65	1.41	Low

Mobility in soil

Soil/Water partition coefficient Not available.





Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations







Disposal methods

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

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (amine phosphate compound)	8	III	 	Remarks Marine pollutant
TDG Classification	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (amine phosphate compound)	8	III	 	Remarks Marine pollutant

Section 14. Transport information

ADR/RID Class	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (amine phosphate compound)	8	III	 	Remarks Marine pollutant
IMDG Class	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (amine phosphate compound)	8	III	 	Remarks Marine pollutant
IATA-DGR Class	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (amine phosphate compound)	8	III	 	-

PG* : Packing group

Section 15. Regulatory information

U.S. Federal regulations

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

TSCA 8(c) calls for record of SAR: trimethyl phosphate

TSCA 12(b) - Chemical export notification

Not applicable.

**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

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
-----------------------	--

Composition/information on ingredients

Name	%	Classification
proprietary amine phosphate compounds (NJTSR No. 800983-5011P)	98 - 100	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B
trimethyl phosphate	1 - 2	ACUTE TOXICITY (oral) - Category 4 GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

State regulations

Massachusetts	The following components are listed: TRIMETHYL PHOSPHATE
New York	None of the components are listed.
New Jersey	None of the components are listed.
Pennsylvania	None of the components are listed.
California Prop. 65	



WARNING: This product can expose you to Trimethyl phosphate, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Trimethyl phosphate	Yes.	-

Inventory list

Australia	All components are listed or exempted.
Canada	All components are listed or exempted.
China	All components are listed or exempted.
Japan	All components are listed or exempted.
New Zealand	All components are listed or exempted.
Philippines	Not determined.
Republic of Korea	All components within this product are registered for K-REACH.
Taiwan	All components are listed or exempted.
United States	All components are active or exempted.

Section 15. Regulatory information

Section 16. Any other relevant information

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

Health	*	3
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. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. 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.)



History

Date of printing	10/14/2025
Date of issue/Date of revision	10/14/2025
Date of previous issue	5/24/2021
Version	8

Key to abbreviations

ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

References

Not available.

Information contact

Vanderbilt Global Services, LLC
Corporate Risk Management
1-203-295-2143

Visit www.vanderbiltchemicals.com for more information.

Notice to reader

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.