## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier
Product name: **VANLUBE® W-324**

- **Product Code**: 51155
- **Chemical name**: Not available.
- **Other means of identification**: dialkylammonium tungstate in oil

### 1.2 Relevant identified uses of the substance or mixture and uses advised against
- Lubricant additives

### 1.3 Details of the supplier of the safety data sheet
- **Vanderbilt Chemicals, LLC**
- 30 Winfield Street
- Norwalk, CT 06855

**e-mail address of person responsible for this SDS**
SDS@vanderbiltglobalservices.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Center
- **Telephone number**
  - Chemtrec: +1-800-424-9300
  - Outside US: +1-703-527-3887

#### Supplier
- **Telephone number**: 1-203-853-1400
- **Hours of operation**: 24 hours

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture
- **Product definition**: Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Classification**
- Skin Sens. 1A, H317
- Aquatic Acute 1, H400
- Aquatic Chronic 1, H410
**SECTION 2: Hazards identification**

See Section 16 for the full text of the H statements declared above.

**Ingredients of unknown ecotoxicity**
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 55%

### 2.2 Label elements

#### Hazard pictograms

- **Signal word**: Warning
- **Hazard statements**: May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

**General**: Not applicable.

**Prevention**: Wear protective gloves: > 8 hours (breakthrough time): neoprene. Avoid release to the environment. Avoid breathing vapor.

**Response**: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

**Storage**: Not applicable.

**Disposal**: Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Restricted to professional users.

### 2.3 Other hazards

**Other hazards which do not result in classification**: None known.

**SECTION 3: Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>petroleum process oil, &lt;3.0% DMSO extractable material</td>
<td>REACH #: 01-2119467170-45-XXXX EC: 265-155-0 CAS: 64742-52-5</td>
<td>40 - 70</td>
<td>Not classified.</td>
<td>-</td>
</tr>
<tr>
<td>amines, bis(C11-14-branched and linear alkyl), tungstates</td>
<td>REACH #: 01-2119949643-29-XXXX CAS: 1159919-46-6</td>
<td>30 - 60</td>
<td>Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
<td>[1]</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 5/23/2016
SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

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

See Section 16 for the full text of the H statements declared above.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of 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 adverse health effects persist or are severe. 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.

Skin contact
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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion
Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both 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 May cause an allergic skin reaction.
Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No specific data.
SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Adverse symptoms may include the following: irritation, redness.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture: In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. 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
- metal oxide/oxides

5.3 Advice for firefighters

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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".

6.2 Environmental precautions
SECTION 6: Accidental release measures

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. Collect spillage.

6.3 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 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 ingest. Avoid breathing vapor or mist. Avoid release to the environment. 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

<table>
<thead>
<tr>
<th>Danger criteria</th>
<th>Notification and MAPP threshold</th>
<th>Safety report threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>C9i: Very toxic for the environment</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)
SECTION 7: Handling and storage

Recommendations
Not available.

Industrial sector specific solutions
Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>petroleum process oil, &lt;3.0% DMSO extractable material</td>
<td>ACGIH TLV (United States, 1/2011). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction ACGIH TLV (United States). STEL: 10 mg/m³</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs/DMELs available.

PNECs
No PNECs available.

8.2 Exposure controls

Appropriate engineering controls
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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: safety glasses with side-shields. Recommended: splash goggles

Skin protection

SECTION 8: Exposure controls/personal 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. > 8 hours (breakthrough time): neoprene

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.

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 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state: Liquid.
Color: Straw to Black.
Odor: Not available.
Odor threshold: Not available.

pH
6.5 to 6.9 (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Initial boiling point and boiling range
Not available.

Flash point
Closed cup: >140°C [Pensky-Martens.]

Evaporation rate
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits
Not available.

Vapor pressure
0.00000005 kPa [room temperature] (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Vapor density
Not available.

Density
1.05 g/cm³ [25°C (77°F)]

Relative density
1.05

Solubility(ies)
Insoluble in the following materials: cold water.

Solubility in water
0.00000948 g/l (For amines, bis(C11-14-branched and linear alkyl), tungstates)
SECTION 9: Physical and chemical properties

Partition coefficient: n-octanol/water
>8 (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Auto-ignition temperature
349 to 352°C (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Decomposition temperature
>250°C (For amines, bis(C11-14-branched and linear alkyl), tungstates)

Viscosity
Not available.

Explosive properties
Not available.

Oxidizing properties
Not available.

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
The product is stable.

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

10.4 Conditions to avoid
No specific data.

10.5 Incompatible materials
No specific data.

10.6 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>petroleum process oil, &lt;3.0% DMSO extractable</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>material</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl),</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>tungstates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Acute toxicity estimates
Not available.

Irritation/Corrosion
Not available.

Conclusion/Summary
Skin
Amines, bis(C11-14-branched and linear alkyl), tungstates: Non-irritating to the skin based on data from in vitro skin irritation test using a human skin model. The skin irritation potential was tested through topical application for 15 minutes, after which a 44 hour post-incubation period was allowed.
SECTION 11: Toxicological information

Potential acute health effects

Eye contact
No known significant effects or critical hazards.

Inhalation
No known significant effects or critical hazards.

Ingestion
May cause an allergic skin reaction.

Skin contact
No known significant effects or critical hazards.

Eye contact
No specific data.

Sensitization

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>skin</td>
<td>Mouse</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

Conclusion/Summary
Skin
Not available.

Mutagenicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Experiment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>OECD 471</td>
<td>Experiment: In vitro Subject: Bacteria</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Carcinogenicity
Not available.

Conclusion/Summary
Not available.

Reproductive toxicity
Not available.

Conclusion/Summary
Not available.

Teratogenicity
Not available.

Conclusion/Summary
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Routes of entry anticipated: Oral, Dermal.

Potential acute health effects

Eye contact
No known significant effects or critical hazards.

Inhalation
No known significant effects or critical hazards.

Skin contact
May cause an allergic skin reaction.

Ingestion
No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact
No specific data.
### SECTION 11: Toxicological information

**Inhalation**
No specific data.

**Skin contact**
Adverse symptoms may include the following:
- irritation
- redness

**Ingestion**
No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

- **Potential immediate effects**
  Not available.

- **Potential delayed effects**
  Not available.

**Long term exposure**

- **Potential immediate effects**
  Not available.

- **Potential delayed effects**
  Not available.

**Potential chronic health effects**
Not available.

**Conclusion/Summary**
Not available.

**General**
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity**
No known significant effects or critical hazards.

**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**
No known significant effects or critical hazards.

**Other information**
Not available.

### SECTION 12: Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>Acute EC50 0.00088 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 4.6 mg/l</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 0.00015 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>OECD 301B</td>
<td>31 % - Not readily - 14 days</td>
<td>23.1 mg/l</td>
<td>Activated sludge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>-</td>
<td>-</td>
<td>Not readily</td>
</tr>
</tbody>
</table>

#### 12.3 Bioaccumulative potential

**Date of issue/Date of revision**
5/23/2016
SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>amines, bis (C11-14-branched and linear alkyl), tungstates</td>
<td>&gt;8</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

- Soil/water partition coefficient (K_{oc}) Not available.
- Mobility Not available.

12.5 Results of PBT and vPvB assessment

- PBT Not applicable.
- vPvB Not applicable.

12.6 Other adverse effects No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

- **Product**
  - **Methods of disposal** 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.
  - **Hazardous waste** The classification of the product may meet the criteria for a hazardous waste.

- **Packaging**
  - **Methods of disposal** The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
  - **Special precautions** 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

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TDG Classification</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
SECTION 14: Transport information

<table>
<thead>
<tr>
<th>ADR/RID Class</th>
<th>IMDG Class</th>
<th>IATA-DGR Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>3082</td>
<td>3082</td>
<td>3082</td>
</tr>
<tr>
<td>Environmentally hazardous substance, liquid, n.o.s. (amines, bis(C11-14-branched and linear alkyl), tungstates)</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (amines, bis(C11-14-branched and linear alkyl), tungstates)</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (amines, bis(C11-14-branched and linear alkyl), tungstates)</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>remarks</td>
<td>remarks</td>
<td>remarks</td>
</tr>
</tbody>
</table>

Remarks: Marine pollutant

PG* : Packing group

SECTION 15: Regulatory information

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.

EINECS: European Inventory. This product contains the following chemical(s) for which one or more Pre-Market Notifications have been filed. Should you wish to export products containing this product into an EC country, contact Product Risk Manager at Vanderbilt Global Services, LLC at 203-295-2143 for more information. Chemical name: amines, bis(C11-14-branched and linear alkyl), tungstates CAS no. 1159919-46-6

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorization
Annex XIV
None of the components are listed.
Substances of very high concern
None of the components are listed.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Restricted to professional users.

Other EU regulations
Seveso Directive
This product is controlled under the Seveso Directive.

Danger criteria
SECTION 15: Regulatory information

National regulations

Germany
Hazard class for water 2 Appendix No. 4

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

International lists

United States inventory (TSCA 8b) All components are listed or exempted.
Canada inventory At least one component is not listed in DSL but all such components are listed in NDSL.
Australia inventory (AICS) Not determined.
China inventory (IECSC) Not determined.
Japan inventory (ENCS) Not determined.
Korea inventory (KECI) Not determined.
New Zealand Inventory of Chemicals (NZIoC) Not determined.
Philippines inventory (PICCS) Not determined.

15.2 Chemical Safety Assessment
This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
### SECTION 16: Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Sens. 1A, H317</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

#### Europe

<table>
<thead>
<tr>
<th>Full text of abbreviated H statements</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full text of classifications [CLP/GHS]</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>AQUATIC HAZARD (ACUTE) - Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>AQUATIC HAZARD (LONG-TERM) - Category 1</td>
</tr>
<tr>
<td>Skin Sens. 1A, H317</td>
<td>SKIN SENSITIZATION - Category 1A</td>
</tr>
</tbody>
</table>

#### History

| Date of printing                     | 5/23/2016                                           |
| Date of issue/ Date of revision      | 5/23/2016                                           |
| Date of previous issue               | 5/23/2016                                           |
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|                                      | Corporate Risk Management                           |
|                                      | 1-203-295-2143                                      |

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