Material Safety Data Sheet

1. Product and Company Identification

Product Name: VANWET 9N9 NONYLPHENOL POLYETHYLENE GLYCOL ETHER

Distributed by:
Univar USA Inc.
17425 NE Union Hill Road
Redmond, WA 98052
4258893400

2. Hazards Identification

Emergency Overview

Color: Brown  Physical State: Liquid  Odor: Mild

Hazard of product:
WARNING! Causes eye irritation. Harmful if inhaled. May be harmful if absorbed through skin. May be harmful if swallowed. Aspiration hazard. Can enter lungs and cause damage. Isolate area. Keep up wind of spill.

OSHA Hazard Communication Standard
This product is a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CER 1910.1200.

Potential Health Effects

Eye Contact: May cause severe eye irritation. May cause severe corneal injury.

Skin Contact: Prolonged contact may cause slight skin irritation with local redness.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts. Similar materials have been shown to cause lung effects following contact with the skin of rabbits.

Inhalation: Prolonged excessive exposure may cause serious adverse effects, even death. Vapor may cause irritation of the upper respiratory tract (nose and throat). Mist may cause irritation of upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Effects of Repeated Exposure: For this family of materials: In animals, effects have been reported on the following organs: Kidney. Liver.
**Birth Defects/Developmental Effects:** For this family of materials: Has been toxic to the fetus in lab animals at doses toxic to the mother.

3. Composition Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly (oxy-1, 2-ethanediyl), alpha- (4-nonylphenyl) -omega-hydroxy-branched</td>
<td>127087-87-0</td>
<td>&gt;= 97.0 %</td>
</tr>
<tr>
<td>Poly (ethylene oxide)</td>
<td>25322-68-3</td>
<td>&lt;= 3.0 %</td>
</tr>
<tr>
<td>Dinonyiphenyl polyoxysthylene</td>
<td>9014-93-1</td>
<td>&lt; 2.0 %</td>
</tr>
</tbody>
</table>

4. First Aid Measures

**Eye Contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**Skin Contact:** Wash skin with plenty of water.

**Inhalation:** Move person to fresh air. If not breathing, give artificial respiration; if by mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Ingestion:** Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

**Notes to Physician:** Maintain adequate ventilation and oxygenation of the patient. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed for 24-48 hours for signs of respiratory distress. The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

**Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

**Steps to be taken if Material is Released or Spilled:** Contain spilled material if possible. Absorb with materials such as: Sand or Dirt. Collect in suitable and properly labeled containers.
Do not use water for cleanup. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. **Handling and Storage**

**General Handling:** Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. Do not swallow. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Storage:**
No specific requirements.

**Shelf life:** Use within 24 Months. The shelf life given is for unopened containers stored under moderate temperature conditions

8. **Exposure Controls / Personal Protection**

**Exposure Limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly (ethylene oxide)</td>
<td>WEEL</td>
<td>TWA Particulate.</td>
<td>10 mg/m3</td>
</tr>
</tbody>
</table>

**Personal Protection**

**Eye/Face Protection:** Use chemical goggles.

**Skin Protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Hand protection:** Use gloves chemically resistant to this material


Examples of acceptable glove barrier materials include: Natural rubber (latex). Neoprene. Nitrile/butadiene rubber (nitrile or NBR). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Ingestion:** Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

**Engineering Controls**

**Ventilation:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. **Physical and Chemical Properties**
<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Flash Point - Closed Cup</td>
<td>247 deg C (477 deg F) ASTM D93</td>
</tr>
<tr>
<td>Flash Point - Open Cup</td>
<td>282 deg C (540 deg F) ASTM D92</td>
</tr>
<tr>
<td>Flammable Limits In Air</td>
<td>Lower: No test data available</td>
</tr>
<tr>
<td></td>
<td>Upper: No test data available</td>
</tr>
<tr>
<td>Auto ignition Temperature</td>
<td>No test data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 0.01 mmHg @ 20 deg C Calculated</td>
</tr>
<tr>
<td>Boiling Point (760 mmHg)</td>
<td>&gt; 250 deg C (&gt; 482 deg F) Calculated</td>
</tr>
<tr>
<td></td>
<td>Calculated decomposes before boiling.</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>&gt;1 Calculated</td>
</tr>
<tr>
<td>Specific Gravity (H20=1)</td>
<td>1.057 20 deg C/20 deg C Calculated</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>3.8 deg C (38.8 deg F) Calculated</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable to liquids</td>
</tr>
<tr>
<td>Solubility in Water (by weight)</td>
<td>completely soluble but some compositions may form gels</td>
</tr>
<tr>
<td>pH</td>
<td>No test data available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>616 g/mol Calculated</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>237 cSt Calculated</td>
</tr>
</tbody>
</table>

10. **Stability and Reactivity**

- **Stability/Instability:** Thermally stable at typical use temperatures.
- **Conditions to Avoid:** Exposure to elevated temperatures can cause product to decompose.
- **Incompatible Materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.
- **Hazardous Polymerization:** Will not occur.
- **Thermal Decomposition:** Decomposition products depend upon temperature, air supply and the presence of other materials.

11. **Toxicological Information**

- **Acute Toxicity**
  - Ingestion
    - Typical for this family of materials. LD50, Rat 960-3,980 mg/kg
  - Skin Absorption
    - Typical for this family of materials. LD50, Rabbit 2,000-2,991 mg/kg
  - Inhalation
    - Typical for this family of materials. LD50, 4 h, Aerosol, Rat 1.15 mg/L
- **Sensitization**
  - Skin
    - For this family of materials: Did not cause allergic skin reactions when tested in humans.
  - Repeated Dose Toxicity
    - For this family of materials: In animals, effects have been reported on the following organs: Kidney. Liver.
- **Chronic Toxicity and Carcinogenicity**
  - For this family of materials: Did not cause cancer in laboratory animals.
- **Developmental Toxicity**
  - For this family of materials: Has been toxic to the fetus in lab animals at doses toxic to the mother. For this family of materials: Did not cause birth defects in laboratory animals.
- **Genetic Toxicology**
For this family of materials: In vitro genetic toxicity studies were negative.

12. Ecological Information
   CHEMICAL FATE
   Movement & Partitioning-No relevant information found.
   Persistence and Degradability
   For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
   Chemical Oxygen Demand: 2.09-2.25 mg/mg
   Theoretical Oxygen Demand: 2.23-2.35 mg/mg
   ECOTOXICITY
   For this family of materials: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species tested)
   Fish Acute & Prolonged Toxicity
   For this family of materials: LC50, fathead minnow (Pimephales promelas): 3.8-6.2 mg/L
   Aquatic Invertebrate Acute Toxicity
   For this family of materials: LC50, water flea Daphnia magna: 9.3-21.4 mg/L
   Toxicity to Micro-organisms
   For this family of materials: IC50; bacteria, Growth inhibition, 16 h: > 1,000 mg/L

13. Disposal Considerations
   DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.
   VENDOR HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL.
   THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device, Waste water treatment system.

14. Transport Information
   DOT Non-Bulk       NOT REGULATED
   DOT Bulk           NOT REGULATED
   IMDG               NOT REGULATED
   ICAO/IATA          NOT REGULATED
   This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information
   OSHA Hazard Communication Standard
   This product is a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right to-Know Act of 1986) Sections 311 and 312
Immediate (Acute) Health Hazard   Yes
Delayed (Chronic) Health Hazard   Yes
Fire Hazard   No
Reactive Hazard   No
Sudden Release of Pressure Hazard   No
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
Pennsylvania (Worker and Community Right To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Component   CAS #    Amount
1,4-Dioxane   123-91-1  20.0PPM
Ethylene oxide  75-21-8   10.0PPM
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm.

Component   CAS #    Amount
Ethylene oxide  75-21-8   10.0PPM
US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30
CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Hazard Rating System
NFPA   Health   Fire   Reactivity
3   1   0

Recommended Uses and Restrictions
Multi-purpose surfactant. NOTICE! NOT TO BE USED AS A BIOCID IN INTRAVAGINAL END-USE APPLICATIONS (INCLUDING SPERMICIDES). FOR INDUSTRY USE ONLY. Vendor recommends that you use this product in a manner consistent with the listed use.

Legend
N/A   Not available
W/W   Weight/Weight
OEL   Occupational Exposure Limit
STEL   Short Term Exposure Limit
TWA   Time Weighted Average
ACGIH  American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG  Dow Industrial Hygiene Guideline
WEEL  Workplace Environmental Exposure Level
HAZ_DES  Hazard Designation

Action Level  A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

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FOR ADDITIONAL INFORMATION

CONTACT: MSDS COORDINATOR UNIVAR USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400

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