

November, 14 2013

## Vital Oxide

### Section 1: Product and Company Identification

|                                 |                                                                   |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
|---------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|--|---|---|--|---|---|--|----|----|--|
| <b>Product Name</b>             | Vital Oxide                                                       | Aqueous Oxidant                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| <b>Manufacturer/Distributor</b> | Vital Solutions, LLC.<br>PO Box 9932<br>West Palm Beach, FL 33419 | <table border="1"> <tr> <td>H</td><td>0</td><td></td></tr> <tr> <td>F</td><td>0</td><td></td></tr> <tr> <td>R</td><td>0</td><td></td></tr> <tr> <td>PE</td><td>--</td><td></td></tr> </table> | H | 0 |  | F | 0 |  | R | 0 |  | PE | -- |  |
| H                               | 0                                                                 |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| F                               | 0                                                                 |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| R                               | 0                                                                 |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| PE                              | --                                                                |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| <b>Phone Numbers</b>            |                                                                   |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| <b>Product Information</b>      | (561) 848-1717                                                    |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |
| <b>Medical Emergency</b>        | (800) 222-1222                                                    |                                                                                                                                                                                               |   |   |  |   |   |  |   |   |  |    |    |  |

### Section 2: Composition/ Information on Ingredients

| Ingredients                                    | CAS Number | Wt %  |
|------------------------------------------------|------------|-------|
| Oxychlorine Compounds                          | Mixture    | 0.200 |
| n-Alkyl Dimethyl Benzyl Ammonium Chloride      | 68391-01-5 | 0.125 |
| n-Alkyl Dimethyl Ethylbenzyl Ammonium Chloride | 85409-23-0 | 0.125 |
| Inert Ingredients                              | Mixture    | 99.55 |

At these concentrations none of the ingredients are known to pose any hazards to human health.

### Section 3: Hazards Identification

#### Emergency Overview

Colorless liquid with mild fresh odor. Avoid contact with eyes. Keep out of reach of children.

**HMIS Rating:**      **Health:** 0      **Flammability:** 0      **Reactivity:** 0      **PPE:** None

#### Potential Health Effects

Eye Contact: Eye contact may cause mild eye irritation with discomfort.

Skin Contact: Does NOT cause skin irritation and the product is NOT skin sensitizer.

Inhalation: Does NOT cause any respiratory irritation. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors and allow adequate time for the vapors to disperse before re-entering the restricted area.

Ingestion: Non-Toxic

#### Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA, and ACGIH as carcinogens.

## Section 4: First Aid Measures

### Inhalation

Does NOT cause any respiratory irritation. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors, and allow adequate time for the vapors to disperse before re-entering the restricted area.

### Skin Contact

Does NOT cause skin irritation.

### Eye Contact

In case of contact, flush eyes with plenty of water.

### Ingestion

Non-toxic. Give a glass of water.

## Section 5: Fire Fighting Measures

### Flammable Properties:

**Flash Point:** Not Available (Non Flammable)

**Burn Rate:** Unknown

**Flammable Limits:** **Lower Flammable Limit:** Not Established **Upper Flammable Limit:** Not Established

**Flammability Classification:** Non-Flammable liquid **Autoignition Temperature:** Not Established

**Hazardous Combustion Products:** Thermal or other decomposition may yield chlorine dioxide or chlorine.

**Extinguishing Media:** N/A (Non-Flammable liquid) **Additional Considerations:** None

**FIRE FIGHTING INSTRUCTIONS:** Non-Flammable liquid

**NFPA Rating:** **Health:** 0 **Flammability:** 0 **Reactivity:** 0 **PPE:** None

## Section 6: Accidental Release Measures

### Spill Clean-Up

No special clean-up measures are required for the consumer product. To avoid the possibility of "bleaching" the spill should be absorbed with paper towels, and the area rinsed with clean water.

### Accidental Release Measures

Spills are slippery and should be cleaned up promptly.

## Section 7: Handling and Storage

**Handling:** Keep away from heat and strong acids.

**Storage:** Keep container tightly closed and sealed until ready for use. Keep container in a well-ventilated place. Do not store above 120°F or near fire or open flame. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers. Keep out of reach of children.

**Incompatible materials:** Strong acids

**Special Packaging Materials:** None

## Section 8: Exposure Control/ Personal Protection

**Engineering Controls:** Use in adequately ventilated areas.

**Personal Protective Equipment:**

**Eye/Face Protection:** Not required for consumer product.

**Skin Protection:** Not required for consumer product.

**Respirators:** None required for normal use. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors, and allow adequate time for the vapors to disperse before re-entering the restricted area.

**Exposure Limits:**

**Oxychlorine Compounds:**

**n-Alkyl Dimethyl Ethylbenzyl Ammonium Chloride:**

PEL (OSHA): Not available

PEL (OSHA):

Not available

TLV (ACGIH): Not available

TLV (ACGIH):

Not available

**n-Alkyl Dimethyl Benzyl Ammonium Chloride:**

PEL (OSHA): Not available

TLV (ACGIH): Not available

## Section 9: Physical and Chemical Properties

|                                          |                     |                                |                    |
|------------------------------------------|---------------------|--------------------------------|--------------------|
| <b>Appearance:</b>                       | Colorless liquid    | <b>Odor:</b>                   | Mild-Fresh         |
| <b>Physical State:</b>                   | Liquid              | <b>pH:</b>                     | 8 - 9              |
| <b>Boiling Point (°F):</b>               | 212                 | <b>Solubility in Water:</b>    | 100%               |
| <b>Freezing Point (°F):</b>              | 32                  | <b>Vapor Pressure (mm Hg):</b> | Not Available      |
| <b>Volatile Organic Compounds (VOC):</b> | None                | <b>Evaporation Rate:</b>       | Less than Ether    |
| <b>Specific Gravity:</b>                 | 1.003 @ 68°F (20°C) | <b>Density (lb/gal):</b>       | 8.40 @ 68°F (20°C) |

## Section 10: Stability and Reactivity

**Chemical Stability:** The product is stable.

**Incompatibility with other Materials:** Strong acids

**Conditions to avoid:** Contact with strong acids

**Hazardous Polymerization:** Will not occur.

**Hazardous Decomposition Products:** Thermal or other decomposition may yield chlorine dioxide or chlorine.

## Section 11: Toxicological Information

**TOXICITY TESTING – ACUTE Inhalation** – Studies with Wistar Albino rats exposed to a respirable aerosol made from a solution of Vital Oxide at a level of 2.08 mg/l for four hours resulted in no deaths and no abnormal necropsy observations. **Eye Contact** – Studies with New Zealand white rabbits showed this product is a very mild ocular irritant; mild irritation was observed, but cleared within 24 hours. **Skin Contact** – Study of dermal toxicity in New Zealand white rabbits showed the product to be non- toxic: Dermal LD<sub>50</sub>> 5,000 mg/kg of body weight; Study of dermal irritation in New Zealand white rabbits showed the product is not a dermal irritant. In Dermal Sensitization studies, Vital Oxide was determined not to be a sensitizer. **Swallowing** - Acute oral toxicity in albino rats: Non-toxic LD<sub>50</sub>>5,000 mg/kg of body weight.

**EPA TOXICITY RATING – IV (For all exposure routes)** This is the lowest category on the scale and is designed for substances that are the least hazardous.

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**Section 12: Ecological Information**

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**Environmental Hazards:** Not data available.

**Environmental Fate:** Not data available.

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**Section 13: Disposal Considerations**

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**Waste Disposal:** Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

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**Section 14: Transport Information**

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**Shipping Information:** Not regulated by DOT, IMO/IMDG and IATA/ICAO for ground, air or ocean shipments.

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**Section 15: Regulatory Information**

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**U.S. Federal Regulations:**

**TSCA:** All components appear in TSCA Inventory

**OSHA:** Refer to Section 8 for exposure limits.

**CERCLA SARA Hazard Category:**

**Section 311 and 312:** This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: None

**Section 313:** This product contains following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

**State regulations:**

State Right to Know information is not provided. **California prop. 65 (no significant risk level):** None

**International Regulations:**

**Canadian WHMIS:** Not controlled

**Canadian Environmental Protection Act (CEPA):** Additional information available upon request.

**EU Regulations:** Additional information available upon request.

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**Section 16: Other Information**

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End of MSDS