



Revision Date 5/18/2015

## Safety Data Sheet

### Section 1: Identification

**Product Identifier: VTX**

**Recommended use\*:** Oxidation Treatment

\* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

**Manufacturer:** Advanced Oxidation Technology

**Address:** 4730 Wallace Lane Fredericksburg, VA 22408

**Telephone (general):** 540-230-4717

**Email:** info@advancedoxidation.com

**Company website:** <http://www.advancedoxidation.com>

#### Emergency Telephone Number

**AOT:** 1-540-230-4717

**CHEMTREC:** 1-800-424-9300 (US/Canada) | +1-703-527-3887 (International)

### Section 2: Hazard(s) Identification

#### Emergency Overview

CAUTION: MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. INGESTION MAY CAUSE GASTRIC DISTURBANCES. Use with local exhaust ventilation. Wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator. Wear NIOSH-certified chemical goggles. Wear protective clothing. Wear chemical resistant protective gloves. Eye wash fountains and safety showers must be easily accessible.

**Signal Word:** Warning

**State of matter:** Liquid

**Color:** Dark brown liquid, slightly acrid in liquid form.

**Odor:** Mild organic

**Hazards not otherwise classified:** None known

**Prevention:** Do not breathe dust, fume, gas, mist vapors or spray. Wash thoroughly after handling. Use only outdoors or in a well ventilated area. Wear gloves, eye and face protection and protective clothing.

**Response:** IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minute. Remove contact lenses if present and easy to do. Continue rinsing. Call a POISON CENTER or



doctor if you feel unwell. Specific Treatment (see on this label). If skin or eye irritation persists, get medical attention or advice. Take off contaminated clothing and wash before reuse.

**Potential Health Effects**

**Primary routes of exposure:** Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

**Medical conditions aggravated by overexposure:** Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See section 11 - Toxicological information.

**GHS Hazard Pictograms:**

	<p><b>Irritant – Product exposure to eyes, skin/body, hands, ingestion, and inhalation should be avoided. See section 4 First-Aid Measures for additional information.</b></p>
	<p><b>Respiratory Sensitization – Product exposure to respiratory systems should be avoided. See section 8 Exposure Controls / Personal Protection for additional information.</b></p>

**Storage / Disposal:** Product should be stored in a well ventilated area with proper spill containment and drainage capabilities. Dike area around spill to prevent spreading, and use absorbent material to pick up spill. Dispose of water in accordance with applicable federal, state, and local laws at licensed incinerators or landfills. Do not discharge to waterways or sewer systems without authority. This material is not regulated by RCRA or CERCLA (Superfund).

**Section 3: Composition / Information on Ingredients**

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

This product is not classified as hazardous under the referenced regulation.

<u>CAS Number</u>	<u>Content</u>	<u>Chemical Name</u>
Trade Secret	20-25%	Proprietary Catalyst

**Section 4: First-Aid Measures**

**Description of First Aid Measures**

**Eyes:** Flush with water immediately and thoroughly for at least a 15 minutes. Seek medical attention.

**Skin:** Remove contaminated clothing and flush skin with water.

**Inhalation:** Remove to fresh air. Seek medical attention.

**Ingestion:** Do not induce vomiting. Give large quantities of water, then an antacid. Seek medical attention.

**Inhalation:** Keep patient calm, remove to fresh air, seek medical attention

**Most Important Symptoms and effects, both acute and delayed**

Can cause damage to the eyes. Can cause slight redness and irritation. Seek medical attention.

**Note to physician:** Treat according to symptoms (decontamination, vital functions), no known specific antidotes

## Section 5: Fire-Fighting Measures

**Suitable extinguishing media:** Not flammable and will not burn; use materials appropriate for any surrounding fires.

**Unsuitable extinguishing media:** Will not burn; use materials appropriate for any surrounding fires.

**Special Hazards arising from the substance or mixture:** No hazard expected under normal conditions of use.

**Unusual fire and explosion hazards:** None

**Advice for firefighters:** Will not burn; use materials appropriate for any surrounding fires. Keep upwind, keep containers exposed to fire cool by spraying with water, prevent chemical runoff into drains.

## Section 6: Accidental Release Measures

### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions:** Use personal protective clothing as per section 8

**Emergency Procedures:** Follow your organizations standard emergency response procedures. Perform any emergency actions with local exhaust ventilation. When interacting with chemical, wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator. Wear NIOSH-certified chemical goggles. Wear protective clothing. Wear chemical resistant protective gloves. Eye wash fountains and safety showers must be easily accessible.

**Environmental Precautions:** Do not discharge into drains/surface waters/groundwater unless as specifically directed by seller

### **Methods and materials for containment and clean up**

CAUTION: Ventilation should be provided in enclosed areas. Dike area around spill to prevent spreading, and use absorbent material to pick up spill. Absorb spillage in inert material and shovel up, place in sealable container, seal containers and label them, wash thoroughly after dealing with spillage. Dispose of water in accordance with applicable federal, state, and local laws at licensed incinerators or landfills. Do not discharge to waterways or sewer systems without authority.

## Section 7: Handling and Storage

**Precautions for Safe Handling:** No special measures necessary provided product is used correctly.

**Storage General Advice:** Keep container closed until use. Store at room temperature and protected against freezing.

**Temperature tolerance:** Protect from temperatures below: -10 °C

**Incompatible materials or Ignition Sources:** Do not store with strong oxidizers such as Hydrogen Peroxide

## Section 8: Exposure Controls / Personal Protection

**Control parameters:** Advice on system design; provide local exhaust ventilation to control vapors/mists. No exposure limits have been set for this substance.

### **Personal Protective Equipment**

**Respiratory protection:** Respiratory protection may be required under exceptional circumstances when air contamination exists for example if breathable aerosols/dusts are formed.

**Clothing:** Wear suitable protective clothing, including eye / face protection and gloves. Contaminated clothing should be laundered prior to reuse. Eyewash bottle should be readily available.

**Hand protection:** Use Neoprene or Nitrile (thickness 1.45-1.85mm) protective gloves. Discard if any signs of degradation are noticed

**Eye protection:** Safety glasses with side-shields.

**Skin / Body:** Wear protective clothing

**General safety and hygiene measures:** Wear protective clothing as necessary to minimize contact.

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin and eyes. Remove contaminated clothing.

## Section 9: Physical and Chemical Properties

Information on chemical and physical properties

<u>Material Description</u>			
<b>Physical Form</b>	Liquid		
<b>Color</b>	Dark brown liquid, slightly acrid in liquid form.		
<b>Taste</b>	Unknown		
<b>Particulate Size</b>	No particles		
<b>Odor Threshold</b>	Mild organic acrid odor, threshold unknown		
<u>General Properties</u>			
<b>Boiling Point</b>	106C (223F)	<b>Melting Point</b>	N/A
<b>Decomposition Temp</b>	Will not occur	<b>Stability</b>	Stable
<b>pH</b>	6.5 – 7.5	<b>Specific Gravity</b>	1.090 ± 0.21
<b>Water Solubility</b>	Complete	<b>Decomposition</b>	Will not occur
<b>Viscosity</b>	N.D.	<b>Explosive Properties</b>	N/A
<u>Volatility</u>			
<b>Vapor Density</b>	N.D.	<b>Vapor Pressure</b>	
<b>Evaporation Rate</b>	N.D.	<b>VOC (Wt.)</b>	N.D.
<b>VOC (vol.)</b>	N.D.	<b>Volatiles (Wt.)</b>	N.D.
<b>Volatiles (vol.)</b>	N.D.		
<u>Flammability</u>			
<b>Flash Point</b>	N/A	<b>UEL</b>	N/A
<b>LEL</b>	N/A	<b>Auto ignition</b>	N/A
<b>Self-Accelerating Decomposition Temp (SADT)</b>	N/A	<b>Heat of Combustion</b>	Non flammable
<b>Burning Time</b>	N/A	<b>Flame Duration</b>	N/A
<b>Flame Height</b>	N/A	<b>Flame Extension</b>	N/A
<b>Ignition Distance</b>	N/A	<b>Flammability (solid, gas)</b>	Non flammable

## Section 10: Stability and Reactivity

**Reactivity:** No hazardous reactions known if used for its intended purpose

**Conditions to avoid:** Avoid contact with aluminum keep away from frost.

**Incompatible materials:** Will corrode metals over time, including, but not limited to iron, steel, aluminum, copper, tin

**Chemical Stability:** Considered stable under normal conditions

**Hazardous Polymerization:** Will not occur

**Hazardous decomposition products:** None known

## Section 11: Toxicological Information

Component Name		CAS	
Proprietary Catalyst		Trade secret	
Acute Toxicity			
Type of Value		Species	Value
Oral LD 50		Rat	>4,000 mg / kg
Skin LD 50		Rat	>4,000 mg / kg
Irritation / Corrosion			
Species	Route	Result	Method
Rabbit	Skin	Positive	OECD Guideline 404
Rabbit	Eye	Positive	OECD Guideline 404
Guinea Pig	Sensitization	No sensitizing effect	

The statements are based on the properties of the individual components

**Routes of Exposure:** Eyes. Ingestion. Inhalation. Skin.

**Eye Contact:** Causes moderate irritation. May cause: discoloration. irritation. discomfort. tearing. blurred vision. corneal ulceration. conjunctival ulceration.

**Skin Contact:** May cause mild to moderate irritation. Contact may cause: discomfort. rash. ulceration.

**Skin Absorption:** No data available.

**Inhalation:** May cause moderate irritation. May irritate: upper respiratory tract. May cause: coughing.

**Ingestion:** May cause mild irritation. May cause: gastrointestinal irritation. Repeated ingestion may cause: gastrointestinal ulceration.

**Medical Conditions Aggravated by Exposure to Product:** None known.

**Other:** None known.

**Cancer Information:** This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

## Section 12: Ecological Information

**Daphnia:** (Ceriodaphnia dubia) LC50: 144.1 mg/l

**Fathead Minnow** (Pimephales promelas) LC50: >1000 mg/l

**Algae (Selenastrum capricornutum)** EC50: 732.8 mg/l, EC0: 288.4 mg/l

**Biodegradability:** Readily biodegradable based on OECD criteria

### Section 13: Disposal Consideration

**Waste disposal of substance:** Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

**Container disposal:** Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

### Section 14: Transportation Information

**UN Number:** Not applicable

**Proper Shipping name:** Not applicable

**Transport Hazard Classes:** Not applicable

**Packing Group:** Not applicable

**Environmental Hazards:** Presents little or no hazard to the environment

**Special precautions for user:** no special precautions are required for this product

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

### Section 15: Regulatory Information

#### United States Federal Regulations

**Registration Status:** Chemical, TSCA, US, released / listed

**OSHA Hazard Category:** Not hazardous

**EPCRA 311/312 (Hazard Categories):** Not hazardous

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

- Refer to current ADR Regulations
- Refer to current IATA Regulations
- Refer to current IMDG Regulations.
- Refer to current RID Regulations
- This Safety Data Sheet is provided in compliance with the EC Directive 1907/2006-453/2010

**Chemical Safety Assessment:** This product is either exempt from REACH or does not meet the minimum volume threshold for a chemical safety assessment (CSA)

### Section 16: Other Information

**NFPA Hazard Codes:** Health: 2                      Fire: 0                      Reactivity: 0                      Special: 0  
**HMIS III Rating:** Health: 2                      Flammability: 0                      Physical hazard: 0                      Personal Protection: 0

**Last Revision Date:** 05/22/2015

**Preparation Date:** 12/12/2014

**Disclaimer/Statement of Liability:** The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstance of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Key to abbreviations

NDA = No data available

N/A = Not applicable