

## MATERIAL SAFETY DATA SHEET

Product Name: eOx Heavy Duty Cleaner (HDC)

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: eOx Heavy Duty Cleaner (HDC)

Manufacturer: eOx Environmental Technologies, Inc  
1e Lulofsdwarsstraat 117  
2521 AZ ,The Hague, Netherlands  
+31 703 807 376

Distributor: RPM Technology, LLC  
P.O. Box 33186  
Reno, Nevada 89533  
+1 775 473-8706

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS#	Exposure Guidelines (OSHA/ACGIH)
Diethylene Glycol Monobutyl ether	112-34-5	None
Orange terpenen	8028-48-6	None
Detergent C9-C11 ethoxylaar	68439-46-3	None

### 3. HAZARDS IDENTIFICATION

#### **For Chemical Emergencies:**

Spill, Leak, Fire or Accident

Call CHEMTREC

North America: (800) 424-9300

Others: (703) 527-3887(collect)

#### Emergency Overview:

Combustible liquid and vapor. Keep away from heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment). Causes eye and skin irritation. May cause allergic skin reaction. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Physical Form: Liquid

Appearance: Yellow-orange

Odor: Oranges

#### NFPA Hazard Class:

Health: 1 (Slight)

Flammability: 2 (Moderate)

Reactivity: 0 (Least)

#### Potential Health Effects:

Eye: Eye irritant. Contact may cause stinging, watering, redness and swelling.

Skin: Skin irritant. Contact may cause redness, burning and skin damage. No harmful effects from skin absorption have been reported.

Inhalation: No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion: Low to moderate degree of toxicity by ingestion.

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Signs and Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, coughing, nausea and vomiting.

Cancer: Inadequate data available to evaluate the cancer hazard of this material.

Target Organs: Inadequate data available.

Developmental: Inadequate data available.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include Skin disorders.

### 4. FIRST AID MEASURES

Eye: Move victim away from exposure and into fresh air. If irritation or redness develops, flush eyes with clean water and seek immediate medical attention. For direct contact, hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

Skin: Remove contaminated shoes and clothing and cleanse affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: If swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on the left side with the head down and do not give anything by mouth. If victim is conscious and alert and ingestion occurred within the last hour, vomiting should be induced for ingestions of large amounts (more than 5 ounces in an adult) preferably under direction from a physician or poison center. If possible, do not leave victim unattended and observe closely for adequacy of breathing.

### 5. FIRE FIGHTING MEASURES

Flammable Properties: Flash Point: >158°F (>70°C)  
OSHA Flammability Class: Combustible liquid

Unusual Fire & Explosion Hazards: This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Protection of Fire Fighters: Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage (29CFR 1910.156). In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate danger area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from danger area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to

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protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

### 6. ACCIDENTAL RELEASE MEASURES

Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release.

Notify persons down wind of the spill/release, isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk.

Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state and local agencies. Immediate cleanup of any spill is recommended.

### 7. HANDLING AND STORAGE

#### Handling:

Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practices.

"Empty" containers retain residue (liquid and/or vapor) and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to Occupational Safety and Health Administration Regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: If current ventilation practices are not adequate to minimize exposure, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

#### Personal Protective Equipment (PPE):

Respiratory: Respiratory protection is not usually required.

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Skin: The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation and skin damage (see glove manufacturer literature for information on permeability). Depending on conditions of use, apron and/or arm covers may be necessary.

Eye/Face: Use approved eye protection to safeguard against potential eye contact, irritation or injury. Depending on conditions of use, a face shield may be necessary.

General hygiene Considerations: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn when skin contact is possible.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Values are determined at 20°C (68°F)

Flash Point:	>158°F (>70°C)
Flammable / Explosive Limits (%):	No data
Autoignition Temperature:	No data
Appearance:	Yellow-orange liquid
Odor:	Oranges
pH:	9.00 (concentrated)
Vapor Pressure:	Water
Vapor Density (air=1):	No data
Boiling Point:	None
Freezing / Melting Point:	No data
Solubility in Water:	100%
Specific Gravity:	1
Percent Volatile:	No data
Evaporation Rate (nBuAc=1):	No data
Volatile Organic Compounds (VOC):	285 G/L (concentrate)

### 10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of storage and handling.
Flammable liquid and vapor.	Vapor can cause flash fire.
Conditions to Avoid:	Avoid all possible sources of ignition (see Sections 5 and 7).
Incompatible Materials:	None known.
Hazardous Decomposition Products:	None known.
Hazardous Polymerization:	Will not occur.

### 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	No data
Chronic Toxicity:	No relevant chronic toxicity has been identified.

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### 12. DISPOSAL CONSIDERATIONS

This material, if discarded as produced would be a RCRA "characteristic" hazardous waste due to the characteristic(s) of ignitability (D001). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40CFR 268.40 and may require treated prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

### 13. TRANSPORT INFORMATION

US DOT Hazard Class: Combustible Liquid      Flash Point: >158°F  
Proper Shipping Name: Combustible Liquid, n.o.s. (contains d-Limonene)  
US Dot ID Number: NA1993  
UN Number: Not regulated

### 14. REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All ingredients of this material are on the TSCA Inventory list.

EPA (CERCLA) Reportable Quantity:      None

SARA Title III Section 302 – Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories:

Fire:	Yes
Pressure Generating:	No
Reactivity:	No
Immediate (acute) Health Hazard:	Yes
Delayed (chronic) Health Hazard:	No

SARA 313 (40CFR 372) Reporting:      None known

California Proposition 65 Reporting:      None known

This material has not been identified as a carcinogen by NTP, IARC or OSHA.

### 15. DOCUMENTARY INFORMATION

Issue Date:      01/30/2008  
Previous Issue Date:      06/01/2005

### 16. DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

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