

MATERIAL SAFETY DATA SHEET

Version 1.3

Revision Date: July 13, 2006
Date Issued: October 7, 2004

zMAX ODOR ELIMINATION SYSTEM

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

Trade Name : zMAX ODOR ELIMINATION SYSTEM

Company Information : Oil Chem Research
6800 West 73rd Street
Bedford Park, IL 60638
888-645-1101

Emergency Telephone Number : CHEMTREC (800) 424-9000

2. COMPOSITION, INFORMATION OR INGREDIENTS

Component	CAS-No	Concentration %
1,1,1,2 - Tetrafluoroethene (NE)	811-97-2	35-40%
Ethanol	64-17-5	35-40%
Other ingredients are proprietary		20-30%

(NE): Not established (No PEL or TLV has been established for this product)

3. HAZARDOUS IDENTIFICATION

Physical Appearance

Form : Liquid

Color : Colorless

Odor : Fresh

Water Solubility : Soluble

pH : between 5 and 8

Potential Health Effects

Eyes : Irritant vapor is irritating to the eyes. Liquid is irritating to eyes and may cause tissue to freeze.

Skin : Repeated contact with high concentrations of liquid may cause drying of skin.

Ingestion : Ingestion is not considered a potential route of exposure.

Inhalation : Inhaling highly concentrated vapors can cause drowsiness, unconsciousness and respiratory depression.

Primary routes of entry : Inhalation or contact with eyes and skin.

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Target Organs : Eyes, Central Nervous System, Respiratory System, Heart

Carcinogenicity : This product does not contain any components listed by NTP or IARC or regulated by OSHA as a carcinogen.

4. FIRST AID MEASURES

Eyes : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin : Flush skin with plenty of water if irritation occurs. If frostbitten, warm skin slowly with water.

Inhalation : If high concentrations are inhaled, remove to fresh air. If not breathing or breathing is difficult, give oxygen. Call a physician.

Ingestion : Ingestion is not considered a potential route of exposure. Product is a gas. Under normal conditions, never give anything by mouth to an unconscious person.

General Advice : If discomfort persists, seek medical attention.

5. FIRE-FIGHTING MEASURES

Flash Point : Non-flammable as an aerosol based on drum testing.

Auto ignition Temperature : not measured

Upper Explosion limits : not measured

Lower Explosion limits : not measured

Suitable extinguishing media : As appropriate for combustibles in area

Extinguishing media which must not be used for safety reasons : not applicable

Products in case of fire : In the event of fire, the following can be released:

- Hydrogen fluoride
- Carbon monoxide
- Carbon dioxide

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Special protective equipment for firefighters	:	Wear self-contained breathing apparatus if fighting fires near this product due to toxic thermal decomposition product. Keep exposed containers cool, with water to prevent rupture.
Hazardous decomposition	:	May decompose when in contact with flames, heating elements, or in gas engines (extreme heat, open flames, glowing metal surfaces) and release irritating, toxic and corrosive gases. Container may rupture if heated due to resulting pressure rise.
OSHA flammable class	:	Non-flammable

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up	:	Remove all sources of ignition. Ventilate area and soak up and spill with inert absorbent
Waste Disposal Method	:	Remove to a permitted waste disposal facility in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

General Procedures Handling

Advice on safe handling	:	Do not get into eyes. Keep away from heat, sparks and open flame. Read label before using. Do not smoke around this product. Do not grind or weld near container due to possible toxic fume generation. Do not breathe vapor, mist or gas.
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Storage

Further Information	:	Store in tightly sealed containers. Do not store or transfer to an unmarked container. Do not throw empty containers in trash compactors. Do not store in direct sunlight. Store containers below 120°F and above 50°F. Empty containers may contain hazardous residue. Do not drop, reuse, or refill container.
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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment

Hygiene Measures	:	No eating, drinking or smoking allowed when using this product.
Respiratory protection	:	None required for normal use. Supplied air or SCBA in case of major release or fire.
Hand Protection	:	None required for normal use. Any lined non-permeable rubber glove.
Eye protection	:	None required. Goggles.
Protective clothing	:	None required.
Engineering controls	:	Provide sufficient ventilation to maintain exposure below established exposure limits to avoid effects of overexposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquid
Color	:	Colorless
Odor	:	Fresh
Melting Temperature	:	Liquid (not applicable)
Boiling Temperature	:	not measured
Vapor Pressure	:	(mmHg or psig @70°F) : 55psig
Density	:	(air = 1) : 3.25
Weight per volume	:	N/A
Water Solubility	:	Soluble
pH	:	between 5 and 8
Viscosity, dynamic	:	Aerosol (not applicable)
Volatile organic compound	:	<40% by weight

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10. STABILITY AND REACTIVITY

Conditions to avoid	:	None
Thermal decomposition	:	Not measured
Hazardous reactions	:	No hazardous reactions
Hazardous polymerization	:	No
Stability	:	Stable
Hazardous decomposition products	:	Carbon monoxide, carbon dioxide, hydrogen fluoride

11. TOXICOLOGICAL INFORMATION

Note : Refrigerant 134a has a low acute inhalation toxicity (4 hour LD 50 in the rat > 500,000 ppm). It is an eye irritant and is not a skin sensitizer. Cardiac sensitization is seen in dogs at concentrations above 750,000 ppm after intravenous adrenaline administration. Sub-chronic toxicity in rats is very low and the no-effect level is 50,000 ppm. In vitro (Ames test, saccharomyces gene mutation, cell transformation and human lymphocyte cytogenetics) and in vivo (dominant lethal, rat bone marrow, micronucleus and DNA repair) genotoxicity assays were all negative.

Permissible exposure limits have not been established. It is recommended that exposure be limited to 1000 ppm, 8 hour TWA. Gross overexposure may cause drowsiness, unconsciousness, respiratory depression and death due to asphyxiation. This compound in high concentrations increases the sensitivity of the heart to adrenaline, possibly resulting in rapid heart beat (tachycardia) irregular heart beat (cardiac arrhythmias) and depression of cardiac function. Persons with preexisting heart disease may be at increased risk from exposure.

12. ECOLOGICAL INFORMATION

Ecological Notes : None

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13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal regulations.

Product disposal and disposal requirements : Remove to a permitted waste disposal facility in accordance with local, state and federal regulations

Contaminated Packaging : If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

14. TRANSPORT INFORMATION

Hazardous Materials Description : Consumer commodity ORM-D

Hazard Class : ORM-D

Identification Number : UN 1133

15. REGULATORY INFORMATION

SARA Section 311/312 : Fire: No
Pressure Generating: No
Reactivity: No
Acute: No
Chronic: No

SARA Sections : This product contains no SARA Title III, Section 313 listed chemicals.

TSCA (Toxic Substance Control Act) : All ingredients are listed in the TSCA Inventory

California Proposition 65 Statement : This product does not contain any substance(s) which are defined by the state of California to cause cancer, birth defects, or other reproductive effects.

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16. OTHER INFORMATION

HMIS Codes : Fire: 1
Health: 1
Physical Hazard: 0
Protection: Gloves

Manufacturer Disclaimer : While the information and recommendations contained herein are believed to be accurate, we make no warranty with respect hereto and disclaim all liabilities from reliance thereon.