

# MATERIAL SAFETY DATA SHEET

## OZONE

Latest Revision Date: 12/24/02

### SECTION 1

### MANUFACTURER INFORMATION

HYDRO-ZONE, INC.  
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Romulus, MI 48174  
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EMERGENCY CONTACT:  
(800) 255-3924

### SECTION 2

### PRODUCT IDENTIFICATION

PRODUCT NUMBER.....OZONE

TRADE NAME OR CHEMICAL NAME.....OZONE

Ozone (O<sub>3</sub>) Description: Occurs in the atmosphere from UV light action on oxygen at high altitudes where it acts as an atmospheric shield against UV light penetration. Derived by passage of air or oxygen between dielectrics across which is maintained an alternating high voltage potential, or by heating silver difluoride in a aqueous acid. It may also be found as a by-product in welding arcs, in corona discharges by ultraviolet radiation and around high voltage equipment. Ozone's largest use is as an oxidizing agent in azelaic acid production. Also used as a disinfectant for air and water, in bleaching textiles, paper pulp, waxes, starch and sugar, organic synthesis, processing certain perfumes, vanillin, camphor, peroxide production, rapid drying of varnish and printing inks; for mold and bacteria control in cold storage rooms and refining mineral oils and their derivatives. Considered for deodorizing and disinfecting certain premises and purifying air with a high carbon monoxide concentration such as found in garages. However, this use is controversial because of the high levels of ozone needed and the inherent hazards.

Cautions: A powerful oxidizing agent, ozone is highly chemically reactive and extremely shock sensitive as a liquid or solid. Inhalation produces various degrees of respiratory effects from irritation to pulmonary edema (fluid in lungs) as well as affecting the eyes, blood and central nervous system. Liquid ozone on contact with skin or mucous membranes produces severe burns.

### SECTION 3

### HAZARDOUS IDENTIFICATION

CHEMICAL NAME(S)	CAS NUMBER	TLV-TWA	PEL (8-hr TWA)	PEL (15-min STEL)	NIOSH REL
Ozone (triatomic oxygen)	10028-15-6	0.1 ppm	0.1 ppm (0.2 mg/M <sup>3</sup> )	0.3 ppm (0.6 mg/M <sup>3</sup> )	0.1 ppm (0.2 mg/M <sup>3</sup> )

### SECTION 4

### PHYSICAL DATA

BOILING POINT @ 760 mmHg.....-169°F (-111°C)  
MELTING POINT @ 760 mmHg.....-315°F (-193°C)  
VAPOR PRESSURE mmHg @ 20°C.....1  
VAPOR DENSITY (Air=1).....1.655  
REFRACTION INDEX  
SPECIFIC GRAVITY @20°C.....1.24  
SOLUBILITY IN WATER.....Complete  
EVAPORATION RATE.....(Water=1) <1  
APPEARANCE AND ODOR.....Brown liquid with characteristic odor.

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### SECTION 6

### FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (PENSKEY-MARTEN C.C.).....NA  
AUTOIGNITION TEMPERATURE.....NA  
FLAMMABILITY LIMITS IN AIR (% V).....NA  
EXTINGUISHING MEDIA.....Not Combustible

SPECIAL FIRE FIGHTING PROCEDURES.....Material is strongly alkaline. Beware of exploding drums.  
UNUSUAL FIRE & EXPLOSION HAZARDS.....NA

**SECTION 7** REACTIVITY DATA

PRODUCT STABILITY.....Stable  
Conditions To Avoid.....NA  
CHEMICAL INCOMPATIBILITY.....Strong acids  
HAZARDOUS DECOMPOSITION PRODUCTS.....Carbon monoxide, carbon dioxide and oxides of nitrogen  
HAZARDOUS POLYMERIZATION.....Will Not Occur

**SECTION 8** HEALTH HAZARD DATA

SKIN CONTACT.....May cause irritation to the skin.  
EYE CONTACT.....May be destructive to eye tissue on contact.  
INHALATION.....Not a likely route of exposure.  
INGESTION.....Corrosive to lining of esophagus.

**SECTION 9** EMERGENCY AND FIRST AID PROCEDURES

SKIN.....Remove contaminated clothing and flush exposed skin with soap and water. If irritation persists or develops, get medical attention. Launder contaminated clothing before reuse.  
EYES.....Immediately flush eyes with large amounts of water for 15 minutes and seek medical attention.  
INGESTION.....If swallowed, DO NOT INDUCE VOMITING. Seek medical attention immediately.  
INHALATION.....Move to fresh. Aid in breathing, if necessary, seek medical attention.

**SECTION 10** ENVIRONMENTAL DATA

SPILL OR LEAK PROCEDURES.....Avoid skin contact. Neutralize with appropriate material and absorb with sand or inert material. Place in suitable container for disposal. Flush residues to sanitary sewer.  
WASTE DISPOSAL METHOD.....Corrosive. Dispose of in accordance with all federal, state and local regulations.  
HAZARDOUS WASTE 40CFR261.....Yes. Hazardous Waste Number: D002  
CONTAINER DISPOSAL.....Empty containers may contain residuals. Thoroughly clean, then offer for recycling, reuse or disposal in accordance with governmental regulations.

**SECTION 11** SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION.....Respirator not required with most applications.  
VENTILATION.....Local exhaust is generally sufficient to minimize exposure.  
PROTECTIVE CLOTHING.....Neoprene gloves, apron, boots----as necessary, to prevent skin contact.  
EYE PROTECTION.....Chemical goggles.  
OTHER PRECAUTIONS.....Safety shower and eyewash fountains should be easily accessible.

**SECTION 12** SUPPLIER INFORMATION

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of manufacturer. The data on this sheet relates only to the specific material designated herein. Manufacturer assumes no legal responsibility for use or reliance upon this data.