



Fleic OZONE MATERIAL SAFETY DATA SHEET

NFPA 704: Flammability = 0; Health = 3; Reactivity = 1; Special = oxidizer



| Section I: Product Information | |
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| Product Name | Ozone (gaseous) |
| Synonyms | Triatomic Oxygen, O ₃ |
| Chemical Formula | O ₃ |
| Description | Occurs in atmosphere from UV light acting on oxygen at high altitude. Commercially derived by air flowing through two electrodes carrying high voltage AC. Also appears as a by-product of welding, high-voltage equipment, or UV radiation. |
| Caution | O ₃ is a powerful oxidizer, and is very chemically reactive. Inhalation can create respiratory irritation, pulmonary edema, and affect the eyes, blood, and nervous system. |
| Intended Use | On-site synthesis for water decontamination. |
| Section II: Hazards | |
| Ozone, CAS No. 10028-15-6; NIOSH RTECHS No. RS8225000 | |
| 2016 NIOSH REL: C 0.1 ppm (0.2 mg/m ³) OSHA PEL: 0.1 ppm (0.2 mg/m ³) TWA NIOSH IDLH: 5 ppm. ACGIH TLV: Ceiling = 0.1 ppm (0.2 mg/m ³) | |
| Section III: Physical Data | |
| Boiling Point | -169°F |
| Vapor Pressure | >1 ATM |
| Vapor Density (AIR=1) | 1.6 |
| Solubility in Water | 0.49 ml @ 32°F (0°C), 3ppm @ 20°C |
| Melting Point | -315°F (-193°C) |
| % Volatile by Volume | 100% |

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| Molecular Weight | 48 g/mol |
| pH | Unlisted |
| Critical Temperature | 10.22°F (-12.1°C) |
| Appearance and odor | Colorless to blue gas (> -169°F); characteristic odor often associated with electrical sparks or lightning when < 2ppm, and disagreeable > 1-2 ppm. Olfactory fatigue is rapid, so do not use as a preventative warning device. |
| Section IV: Fire and Explosion Data | |
| Flash Point | Nonflammable |
| Extinguishing Media | Use large amounts of water spray or fog to put out fires involving ozone. Use appropriate fire-fighting techniques to address surrounding material. |
| Section V: Reactivity Data | |
| Stability | Ozone is not stable and tends to spontaneously break down into O ₂ . Cannot form polymer chains or three-dimensional networks. |
| Chemical Compatibility | Ozone is chemically incompatible with all oxidizable materials. |
| Conditions to Avoid | Ozone will spontaneously decompose to O ₂ gas, which is an oxidant. Flammable materials in the presence of an oxidant source and ignition will burn readily, with increased fire strength. Avoid presentation of ignition sources such as heat, sparks, or open flame. Avoid strong reducing agents. |
| Section VI: Health Hazard Data | |
| Carcinogenicity | Ozone is not listed as a carcinogen. |
| Primary Entry | Inhalation |
| Target Organs | Respiratory system, eyes, blood |
| Summary of Risks | May irritate respiratory tract (experienced as nasal and throat irritation, dryness, chest pain and congestion, breathing problems and coughing. Eye irritation, headache, nausea and drowsiness may occur. Concentrations > 9ppm may result in pneumonia with delayed onset, and high concentrations may be fatal. |
| Acute Effects | Acute damage from ozone appears to result from oxidation of tissues. |
| Chronic Effects | Respiratory disease, lung damage |
| Conditions Aggravated by Long-Term Exposure | Respiratory and heart disorders |

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| First Aid | Remove affected individual from ozone source to fresh air, seek medical assistance immediately. If eyes were exposed, gently flush eyes with water for 15 minutes or until transported to a medical facility; if inhaled, remove person to fresh air, support breathing, get medical help. |
| Section VII: Precautions for Safe Handling and Use | |
| Actions to Take in Case of Leak | Discontinue production; isolate and ventilate area; notify personnel; deny entry to area; follow applicable OSHA regulations. |
| Disposal | Use ventilation to disperse ozone to outer atmosphere. Follow federal, state, and local regulations. |
| Section VIII: Control Measures | |
| Respiratory Protection | If > 10ppm (high level) use MISH/NIOSH approved self-contained breathing apparatus. For low level (0.3-10ppm), canister-type (carbon) respirator may be used. |
| Eye Protection | Wear chemical safety goggles if working with high ozone |
| Skin Protection | Minimal or no effects on skin |
| Ventilation | Provide general and local exhaust ventilation to disperse small amounts of ozone into atmosphere |
| Section IX: Special Precautions | |
| Storage Considerations | Prevent ozone from coming into contact with strong acids, bases, or strong oxidizing/reducing agents. |
| Ventilation | Ventilation should be installed to keep concentrations below ACGIH/OSHA exposure limits; ambient monitors should be present to sense ozone leaks and shut down ozone production in the event of a leak. |



Thank You

Thank you for choosing Fleic

. We look forward to helping with your odor & mold removal project

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