


OFI TESTING EQUIPMENT, INC.  
**MATERIAL SAFETY DATA SHEET**

<b>SECTION I - PRODUCT AND COMPANY IDENTIFICATION</b>	
<b>Chemical Name:</b>	CARBON DIOXIDE GAS
<b>Trade Name:</b>	CO <sub>2</sub> CARTRIDGES
<b>OFI Part No.</b>	143-05
<b>Chemical Family:</b>	Carbonic anhydride, carbonic acid gas
<b>Manufacturer:</b>	OFI Testing Equipment, Inc. 11302 Steeplecrest Drive Houston, TX 77065 USA Phone: (713) 880-9885
<b>In Case of Emergency Spills, Leaks, Fire, Exposure or Accident:</b>	In the USA, call INFOTRAC at 1-800-535-5053 day or night Outside the USA, call collect, (352) 323-3500
<b>SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS</b>	
<b>CAS #</b>	<b>CHEMICAL NAME</b>
124-38-9	Carbon Dioxide > 99.0%
<b>SECTION III - HAZARD IDENTIFICATION</b>	
<b>Emergency Overview:</b>	Carbon Dioxide is colorless. At low concentrations, the gas is odorless. At higher concentrations it has a sharp, acidic odor. It will act as an asphyxiant and an irritant. Carbon Dioxide is a powerful cerebral dilator. At concentrations between 2 and 10%, Carbon Dioxide can cause nausea, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. Above 8% nausea and vomiting appear. Above 10%, suffocation and death can occur within minutes. Contact with the cold gas can cause freezing of exposed tissue. Moisture in the air can lead to formation of carbonic acid that can irritate the eyes. All forms of Carbon Dioxide are noncombustible. Carbon Dioxide is heavier than air and should not be allowed to accumulate in low lying areas.
<b>Inhalation:</b>	May Cause Rapid Respiration, Muscular Incoordination, Fatigue, Nausea and Vomiting and Unconsciousness.
<b>Ingestion:</b>	No Information Found.
<b>Skin:</b>	Pressure drop Through Valves and Piping may Cause Extreme Cold and Frostbite on Contact.
<b>Eye Contact:</b>	No Information Found.
<b>Chronic Exposure:</b>	No Information Found.
<b>SECTION IV - FIRST AID MEASURES</b>	
<b>Inhalation:</b>	Immediately Remove Victim to Fresh Air. If Breathing has Stopped, Give Artificial Respiration. If Breathing is Difficult, Give Oxygen and Get Medical Attention.
<b>Ingestion:</b>	No Information Found.
<b>Skin:</b>	If Frostbite Occurs, Flush Affected Areas with Lukewarm Water. Do Not Use Hot Water. Get Medical Attention.
<b>Eyes:</b>	No Information Found.
<b>SECTION V - FIRE FIGHTING MEASURES</b>	
<b>Fire:</b>	Not Considered to be a Fire Hazard. Non-Flammable Gas.
<b>Explosion:</b>	Not Considered to be an Explosion Hazard. Cartridge Rupture may Occur Under Fire Conditions. Use What is Appropriate for Surrounding Fire.
<b>Fire Extinguishing Media:</b>	In the Event of Fire, Wear Full Protective Clothing and NIOSH-Approved Self-Contained Breathing Apparatus with Full Face piece Operated in the Pressure Demand or Other Positive Pressure Mode. Keep Cartridges Cool with Water Spray.
<b>Special Information:</b>	
<b>SECTION VI - ACCIDENTAL RELEASE MEASURES</b>	
	Ventilate Area of Leak or Spill. Wear Appropriate Personal Protective Equipment as Specified in Section 7. Shut Off Source if Possible and Remove Source of Heat. Remove Leaking Cylinder to Exhaust Hood or Safe Outdoor Area if This can be Done Safely.
<b>SECTION VII - HANDLING AND STORAGE</b>	
	Store in well Ventilated Areas and Away from Heat. Protect Containers from Physical Damage. Do Not Deface Cylinders or Labels. Cylinders should be Refilled by Qualified Producers of Compressed Gas.

<b>SECTION VIII - EXPOSURE CONTROL / PERSONAL PROTECTION</b>	
<b>Ventilation System:</b>	A System of Local and/or General Exhaust is Recommended to Keep Employee Exposures Below the Airborne Exposure Limits. Local Exhaust Ventilation is Generally Preferred Because it can Control the Emissions of the Contaminant at its Source, Preventing Dispersion of it into the General Work Area.
<b>Airborne Exposure Limits:</b>	ACGIH Threshold Limit Value (TLV), 5000 ppm, OSHA (PEL) 5000 ppm, (STEL) 30,000.
<b>Personal Respirators:</b> (NIOSH APPROVED)	Use a Self-Contained Breathing Apparatus in Case of Emergency or Non-Routine Use.
<b>Skin Protection:</b>	Loose Fitting Gloves or Impermeable Material, Such as Leather, When Working with Cold Liquid, Solid or Vapor.
<b>Eye Protection:</b>	Use Safety Glasses.
<b>SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>Appearance / Odor:</b>	Colorless / Odorless
<b>Solubility:</b>	87.8 @ 68 °F (v/v) in water.
<b>Density:</b>	Gas
<b>pH:</b>	No Information Found
<b>% Volatiles by Vol.:</b>	No Information Found
<b>Melting Point:</b>	No Information Found
<b>Boiling Point:</b>	Sublimes - 109.3 °C
<b>Vapor Density (Air=1):</b>	1.53
<b>Vapor Pressure (mmHg):</b>	816 psig @ 20 °C
<b>SECTION X - STABILITY AND REACTIVITY</b>	
<b>General Reactivity:</b>	Stable Under Ordinary Conditions of Use and Storage.
<b>Hazardous Decomposition:</b>	Toxic Carbon Monoxide may be Given Off During Combustion.
<b>Incompatibilities:</b>	Temperatures above 3,092 °F (1,700 °C). This Weakly Acidic Material will React with Alkaline Materials to Form Carbonates and Bicarbonates.
<b>Hazardous Polymerization:</b>	Will Not Occur.
<b>SECTION XI - TOXICOLOGICAL INFORMATION</b>	
<b>Carcinogenic References:</b>	NTP Carcinogen - Known: No, IARC Category- None
<b>Aggravated by Exposure:</b>	Exposure to Carbon Dioxide at 1 to 4% Concentrations Result in Increased Respiratory Volume. Material acts as a Simple Asphyxiant by Displacing Air Necessary for Life.
<b>SECTION XII - ECOLOGICAL INFORMATION</b>	
	No Information Found.
<b>SECTION XIII - DISPOSAL CONSIDERATIONS</b>	
	Dispose of Non-Refillable Cylinders in Accordance with Federal, State and Local Regulations. Allow Gas to Vent Slowly to Atmosphere in an Unconfined Area or Exhaust Hood. If the Cylinders are the Refillable Type, Return Cylinders to Supplier with any Valve Outlet Plugs or Caps Secured and Valve Protection Caps in Place.
<b>SECTION XIV - TRANSPORT INFORMATION</b>	
<b>Shipping Name:</b>	CARBON DIOXIDE
<b>Hazard Class:</b>	2.2 (NON-FLAMMABLE GAS)
<b>Identification No.:</b>	UN1013
<b>SECTION XV - REGULATORY INFORMATION</b>	
<b>WHMIS Classification:</b>	A 
<b>DSL Status:</b>	Appears on DSL.
<b>SECTION XVI - OTHER INFORMATION</b>	
<b>NFPA Rating:</b>	HEALTH-1, FLAMMABILITY-0, REACTIVITY-0
<b>Disclaimer</b>	The information contained herein is based upon data believed to be reliable and reflects our best professional judgment. Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein and assume no responsibility regarding the suitability of this information for the user's intended purpose or for the consequence of its use. Each individual should make a determination as to the suitability of the information for his/her particular purpose(s).