

BACHARACH INC

-- CARBON MONOXIDE

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MSDS Safety Information  
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FSC: 4940  
NIIN: 01-442-7684  
MSDS Date: 06/14/1996  
MSDS Num: CKJHJ  
Product ID: CARBON MONOXIDE  
MFN: 01  
Responsible Party  
Cage: 05083  
Name: BACHARACH INC  
Address: 625 ALPHA DRIVE  
City: PITTSBURGH PA 15238  
Info Phone Number: 412-963-2223  
Emergency Phone Number: 412-963-2223  
Resp. Party Other MSDS No.: 99-0135  
Chemtrec IND/Phone: (800)424-9300  
Review Ind: Y  
Published: Y

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Contractor Summary  
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Cage: 05083  
Name: BACHARACH INC  
Address: 625 ALPHA DRIVE  
City: PITTSBURGH PA 15238  
Phone: 412-963-2223  
Cage: 42568  
Name: LIQUID AIR CORP ALPHAGAZ DIVISION  
Address: 2121 N CALIFORNIA BLVD  
City: WALNUT CREEK CA 94596  
Phone: 510-977-6500  
Contract Number: SP0760-99-V-4193  
Cage: 0ZQR5  
Name: YARO SUPPLY CO, DIV OF WESTERN TRADEWINDS INC  
Address: 7946 CLYO RD  
Box: 750608  
City: DAYTON OH 45475-0608  
Phone: 937-439-9276

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Item Description Information  
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Item Manager: S9C  
Item Name: CYLINDER,GAS,CARBON  
Unit of Issue: KT  
UI Container Qty: UNKNOWN  
Type of Container: UNKNOWN

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Ingredients  
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Cas: 630-08-0  
RTECS #: FG3500000  
Name: CARBON MONOXIDE  
OSHA PEL: 55 MG/M3;50 PPM  
ACGIH TLV: 29 MG/M3;25 PPM

ACGIH STEL: NOT ESTABLISHED

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Health Hazards Data  
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LD50 LC50 Mixture: 50 MOLAR PPM; STEL=400 MOLAR PPM (ACGIH)

Carcinogenicity Inds - NTP: NO

IARC: NO

OSHA: NO

Effects of Exposure: ALL OF THE DISORDERS ARE DUE TO THE MARKEDLY REDUCED  
CELULAR RESPIRATION AND MAY INCLUDE CENTRAL NERVOUS SYSTEM IMPAIRMENT,  
CARDIOVASCULAR COLLAPSE, RENAL INSUFFICIENCY COMA, ETC.

Signs And Symptoms Of Overexposure: DEPENDING ON LEVELS AND DURATION OF  
EXPOSURE, SYMPTOMS MAY INCLUDE HEADACHE, DIZZINESS, HEART PALPITATIONS,  
WEAKNESS, CONFUSION AND NAUSEA TO CONVULSIONS, EVENTUAL UNCONSCIOUSNESS AND  
DEATH. BECAUSE IT IS A COLORLESS AND ODORLESS POISONOUS GAS, THERE IS NO  
WARNING OF ITS PRESENCE OTHER THAN THE ABOVE SYMPTOMS. ANALYTICAL  
MONITORS, WITH ALARMS, SHOULD BE EMPLOYED WHERE THE POSSIBILITY OF THE  
RELEASED OF TOXIC QUANTITIES EXISTS.

First Aid: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE  
TO CARBON MONOXIDE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED  
BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.  
INHALATION: CONSCIOUS PERSONS SHOULD BE ASSISTED TO AN UNCONTAMINATED  
AREA AND BE TREATED WITH SUPPLEMENTAL OXYGEN. QUICK REMOVAL FROM THE  
CONTAMINATED AREA IS MOST IMPORTANT. UNCONSCIOUS PERSONS SHOULD BE MOVED  
TO AN UNCONTAMINATED AREA AND BE GIVEN ARTIFICIAL RESPIRATION AND OXYGEN  
AT THE SAME TIME.

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Handling and Disposal  
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Spill Release Procedures: EVACUATE ALL PERSONNEL FROM AFFECTED AREA. USE  
APPROPRIATE PROTECTIVE EQUIPMENT. IF LEAK IS IN USER'S EQUIPMENT, BE  
CERTAIN TO PURGE PIPING WITH AN INERT GAS PRIOR TO ATTEMPTING REPAIRS. IF  
LEAK IS IN CONTAINER OR CONTAINER VALVE, CONTACT THE CLOSEST LIQUID AIR  
CORPORATION LOCATION.

Waste Disposal Methods: DO NOT ATTEMPT TO DISPOSE OF RESIDUAL OR UNUSED  
QUANTITIES. RETURN IN THE SHIPPING CONTAINER PROPERLY LABELED, WITH ANY  
VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE TO  
LIQUID AIR CORPORATION FOR PROPER DISPOSAL. FOR EMERGENCY DISPOSAL,  
CONTACT THE CLOSEST LIQUID AIR CORPORATION LOCATION.

Handling And Storage Precautions: USE ONLY IN WELL-VENTILATED AREAS. VALVE  
PROTECTION CAPS MUST REMAIN IN PLACE UNLESS CONTAINER IS SECURED WITH VALVE  
OUTLET PIPED TO USE POINT. DO NOT DRAG, SLIDE OR ROLL CYLINDERS. USE A  
SUITABLE HAND TRUCK FOR CYLINDER MOVEMENT. USE A PRESSURE REDUCING  
REGULATOR (SEE OTHER PRECAUTIONS)

Other Precautions: WHEN CONNECTING CYLINDER TO LOWER PRESSURE (<2,000  
PSIG) PIPING OR SYSTEMS. DO NOT HEAT CYLINDER BY ANY MEANS TO INCREASE  
THE DISCHARGE RATE OF PRODUCT FROM THE CYLINDER. USE A CHECK VALVE OR TRAP  
IN THE DISCHARGE LINE TO PREVENT HAZARDOUS BACKFLOW INTO THE CYLINDER.

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Fire and Explosion Hazard Information  
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Flash Point Text: GAS

Autoignition Temp: =630.C, 1166.F

Lower Limits: 12.5

Upper Limits: 74.0

Extinguishing Media: WATER, DRY CHEMICAL, CARBON DIOXIDE

Fire Fighting Procedures: IF POSSIBLE, STOP THE FLOW OF CARBON MONOXIDE. USE

WATER SPRAY TO COOL SURROUNDING CONTAINERS.  
Unusual Fire/Explosion Hazard: CARBON MONOXIDE HAS ALMOST THE SAME DENSITY AS AIR. IT WILL NOT DIFFUSE BY RISING AS WITH SOME LIGHTER FLAMMABLES SUCH AS HYDROGEN OR NATURAL GAS (METHANE).

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Control Measures  
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Respiratory Protection: POSITIVE PRESSURE AIR LINE WITH MASK OR SELF-CONTAINED

BREATHING APPARATUS SHOULD BE AVAILABLE FOR EMERGENCY USE.

Ventilation: HOOD WITH FORCED VENTILATION- LOCAL EXHAUST-TO PREVENT ACCUMULATION ABOVE THE TWA. MECHANICAL-IN ACCORDANCE WITH ELECTRICAL CODES.

Protective Gloves: PLASTIC OR RUBBER

Eye Protection: SAFETY GOGGLES OR GLASSES

Other Protective Equipment: SAFETY SHOES, SAFETY SHOWER

Supplemental Safety and Health: THIS NSN IS FOR A CYLINDER OF 500 PPM OF CARBON

MONOXIDE IN AIR. THE MANUFACTURER SUPPLIED TWO MSDS, ONE FOR THE CARBON MONOXIDE AND ONE FOR THE AIR. THE CYLINDER IS 3.6 CUBIC FEET IN VOLUME AND AT 1000 PSIG.

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Physical/Chemical Properties  
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HCC: G2

Boiling Point: =-191.4C, -312.6F

Spec Gravity: @70F(AIR=1) IS.96

Solubility in Water: BUNSEN COEF. 0.02266

Appearance and Odor: COLORLESS, ODORLESS GAS  
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Reactivity Data  
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Stability Indicator: YES

Stability Condition To Avoid: NONE

Materials To Avoid: OXIDIZERS

Hazardous Decomposition Products: NONE

Hazardous Polymerization Indicator: NO  
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Toxicological Information  
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Toxicological Information: THE OXYGEN TRANSPORT FUNCTION OF THE HEMOGLOBIN OF THE BLOOD IS REDUCED SINCE ITS NORMAL REACTION WITH INHALED CARBON MONOXIDE TO FORM CARBOXY HEMOGLOBIN INSTEAD OF ITS NORMAL REACTION WITH HTE OXYGEN IN THE LUNGS TO FORM OXYHEMOGLOBIN. T HE AFFINITY OF HEMOGLOBIN FOR CARBON MONOXIDE IS 200-300 TIMES GREATER THAN ITS AFFINITY FOR OXYGEN.  
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Ecological Information  
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MSDS Transport Information  
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Transport Information: DOT PROPER SHIPPING NAME: CARBON MONOXIDE, FLAMMABLE GAS; UN1016.  
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Regulatory Information  
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Other Information

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Other Information: EARTH-GROUND AND BOND ALL LINES AND EQUIPMENT ASSOCIATED WITH THE CARBON MONOXIDE SYSTEM. ELECTRICAL EQUIPMENT SHOULD BE NON-SPARKING OR EXPLOSION PROOF. COMPRESSED AS CYLINDERS SHOULD NOT BE REFILLED EXCEPT BY QUALIFIED PRODUCERS OF CO MPRESSED GASES. SHIPMENT OF A COMPRESSED GAS CYLINDER WHICH HAS NOT BEEN FILLED BY THE OWNER OR WITH HIS (WRITTEN) CONSENT IS A VIOLATION OF FEDERAL LAW (49 CFR).  
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Transportation Information

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Responsible Party Cage: 05083  
Trans ID NO: 152551  
Product ID: CARBON MONOXIDE  
MSDS Prepared Date: 06/14/1996  
Review Date: 04/25/2000  
MFN: 1  
Tech Entry NOS Shipping Nm: NITROGEN AND OXYGEN  
Net Unit Weight: 117 GRAMS  
Multiple KIT Number: 0  
Unit Of Issue: KT  
Container QTY: UNKNOWN  
Type Of Container: UNKNOWN  
Additional Data: NOTE: THE MANUF. SUPPLIED ONE MSDS FOR AIR & ONE MSDS FOR CARBON MONOXIDE EVEN THOUGH THEY ARE MIXED IN THE SAME CYLINDER. THIS TRANSPORTATION DATA IS PROVIDED FOR THE AIR/CARBON MONOXIDE MIXTURE. THE CYLINDERS CONTAINS 500 PPM CARBON MON OXIDE. P/N- 24-0492.  
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Detail DOT Information

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DOT PSN Code: DQQ  
DOT Proper Shipping Name: COMPRESSED GASES, N.O.S.  
Hazard Class: 2.2  
UN ID Num: UN1956  
Label: NONFLAMMABLE GAS  
Special Provision: B13  
Non Bulk Pack: 302,305  
Bulk Pack: 314,315  
Max Qty Pass: 75 KG  
Max Qty Cargo: 150 KG  
Vessel Stow Req: A  
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Detail IMO Information

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IMO PSN Code: EQH  
IMO Proper Shipping Name: COMPRESSED GAS, N.O.S. o  
IMDG Page Number: 2124  
UN Number: 1956  
UN Hazard Class: 2(2.2)  
IMO Packaging Group: -  
Subsidiary Risk Label: -  
EMS Number: 2-04  
MED First Aid Guide NUM: 620  
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Detail IATA Information

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IATA PSN Code: HDO  
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IATA UN ID Num: 1956  
IATA Proper Shipping Name: COMPRESSED GAS, N.O.S. \*  
IATA UN Class: 2.2  
IATA Label: NON-FLAMMABLE GAS  
Packing Note Passenger: 200  
Max Quant Pass: 75KG  
Max Quant Cargo: 150KG  
Packaging Note Cargo: 200

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Detail AFI Information  
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AFI PSN Code: HDO  
AFI Symbols: \*  
AFI Proper Shipping Name: COMPRESSED GAS, N.O.S.  
AFI Hazard Class: 2.2  
AFI UN ID NUM: UN1956  
Special Provisions: P5  
Back Pack Reference: A6.3, A6.5,A6.6

=====  
HAZCOM Label  
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Product ID: CARBON MONOXIDE  
Cage: 05083  
Company Name: BACHARACH INC  
Street: 625 ALPHA DRIVE  
City: PITTSBURGH PA  
Zipcode: 15238  
Health Emergency Phone: 412-963-2223  
Label Required IND: Y  
Date Of Label Review: 04/22/2000  
Status Code: A  
Origination Code: F  
Eye Protection IND: YES  
Skin Protection IND: YES  
Signal Word: DANGER  
Respiratory Protection IND: YES  
Health Hazard: Severe  
Contact Hazard: None  
Fire Hazard: None  
Reactivity Hazard: None  
Hazard And Precautions: TARGET ORGANS: CARDIOVASCULAR SYSTEM, LUNGS, BLOOD,  
CENTRAL NERVOUS SYSTEM. ALL OF THE DISORDERS ARE DUE TO THE MARKEDLY  
REDUCED CELULAR RESPIRATION AND MAY INCLUDE CENTRAL NERVOUS SYSTEM  
IMPAIRMENT,CARDIOVASCULAR COLLAPSE, RENAL INSUFFIC IENCY COMA, ETC.

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