

# DRY ICE

## MATERIAL SAFETY DATA SHEET

NSN: 685000F002383

Part Number/Trade Name: **CARBON DIOXIDE/DRY ICE**

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**General Information**

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Date MSDS Prepared: 01JUN90  
Safety Data Review Date: 06APR94  
Preparer's Company: [AIR PRODUCTS AND CHEMICALS INC.](#)  
Preparer's St Or P. O. Box: 7201 HAMILTON BLVD  
Preparer's City: ALLENTOWN  
Preparer's State: PA  
Preparer's Zip Code: 18195-1501  
MSDS Serial Number: BBKVV

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**Ingredients/Identity Information**

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Proprietary: NO  
Ingredient: CARBON DIOXIDE  
Ingredient Sequence Number: 01  
Percent: 100  
NIOSH (RTECS) Number: FF6400000  
CAS Number: 124-38-9  
OSHA PEL: 5000 PPM  
ACGIH TLV: 9000 MG/CUM  
Other Recommended Limit: 10000 PPM

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**Physical/Chemical Characteristics**

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Appearance And Odor: COLORLESS, ODORLESS  
Boiling Point: -109.3F  
Melting Point: -69.9F  
Vapor Pressure (MM Hg/70 F): 831 PSIA  
Vapor Density (Air=1): 0.115  
Specific Gravity: 1.56  
Solubility In Water: APPRECIABLE

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**Fire and Explosion Hazard Data**

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**Reactivity Data**

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Stability: YES

Conditions To Avoid (Stability): MOISTURE  
Materials To Avoid: CARBONIC ACID/SALT/CORROSIVE CHEMICALS  
Hazardous Polymerization Occurrence: NO

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**Health Hazard Data**  
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Route Of Entry - Inhalation: YES  
Route Of Entry - Skin: NO  
Route Of Entry - Ingestion: NO  
Health Hazard Acute and Chronic: CONCENTRATION IN EXCESS OF 1.5% CARBON DIOXIDE MAY CAUSE DEATH. AT HIGHER CONCENTRATIONS, DISPLACES OXYGEN IN AIR BELOW LEVELS NECESSARY TO SUPPORT LIFE.  
Carcinogenicity - NTP: NO  
Carcinogenicity - IARC: NO  
Carcinogenicity - OSHA: NO  
Explanation Carcinogenicity: NONE  
Signs/Symptoms Of Overexposure: AT CONCENTRATIONS >1.5%: HYPERVENTILATION/HEADACHES/DYSPNEA/PERSPIRATION. AT 6-10%: HEADACHES/DYSPNEA/PERSPIRATION/TREMORS/VISUAL DISTURBANCES. >10%: UNCONSCIOUSNESS W/OUT WARNING. CRYOGENIC BURNS.  
Emergency/First Aid Procedures: INHALATION: REMOVE TO FRESH AIR. ASSISTED RESPIRANT & SUPPLEMENTAL OXYGEN SHOULD BE GIVEN IF NOT BREATHING. FROZEN TISSUES SHOULD BE FLOODED/SOAKED W/TEPID WATER. DON'T USE HOT WATER. OBTAIN MEDICAL ATTENTION IN ALL CASES.

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**Precautions for Safe Handling and Use**  
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Steps if Material Released/Spill: VENTILATE INDOOR AREAS WELL TO AVOID HAZARDOUS CO2 CONCENTRATIONS. VENTILATE AREA WELL & AVOID CONTACT W/COLD VAPORS/DRY ICE. CO2 IS HEAVY GAS & WILL REMAIN IN LOW SPOTS W/OUT ASSISTED VENTILATION.  
Waste Disposal Method: DON'T ATTEMPT TO DISPOSE OF RESIDUAL CO2 IN COMPRESSED GAS CYLINDERS. RETURN CYLINDERS TO AIR PRODUCTS W/RESIDUAL PRESSURE, CYLINDER VALVE TIGHTLY CLOSED/THE VALVE CAP IN PLACE. DISPOSE OF IAW/LOCAL/STAT/FEDERAL REGULATIONS. NONFLAMMABLE GAS. UN1013.  
Precautions-Handling/Storing: COMPRESS GAS CYLINDERS CONTAIN GASEOUS/LIQUID CO2 AT EXTREMELY HIGH PRESSURE/SHOULD HANDLED W/CARE. KEEP CYLINDERS AWAY FROM HEAT.  
Other Precautions: PREVENT CONTACT OF CO2 ON SKIN. USE PRESSURE-REDUCING REGULATOR WHEN CONNECTING TO LOWER PRESSURE PIPING SYSTEMS. SECURE CYLINDERS WHEN IN USE. KEEP

FROM COMBUSTIBLES. AVOID EXPOSURE TO AREAS WHERE SALT/OTHER CORROSIVE MATERIALS ARE PRESENT.

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**Control Measures**  
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Respiratory Protection: SCBA IN OXYGEN DEFICIENT ATMOSPHERES/WHERE CO2 >1.5%.  
DON'T USE AIR PURIFYING RESPIRATORS.  
Ventilation: LOCAL EXHAUST: AT POINT SOURCES OF CO2 VAPORS.  
MECHANICAL(GENERAL): LOW  
LYING AREA ARE NOT NATURALLY VENTILATED.  
Protective Gloves: IMPERMEABLE/LOOSE FITTING (LEATHER)  
Eye Protection: SAFETY GLASSES  
Supplemental Safety & Health Data: CO2 IS STORED IN CONTAINERS UNDER ITS OWN VAPOR PRESSURE. IF THE PRESSURE IS SUDDENLY RELIEVED, THE LIQUID RAPIDLY COOLS AS IT EVAPORATES & SUBLIMES, FORMING DRY ICE AT -109.3F.

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**Transportation Data**  
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**Disposal Data**  
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Disposal Data Review Date: 89018  
Record # For This Disp Entry: 01  
Total Disp Entries Per NSN: 001  
Landfill Ban Item: YES  
Disposal Supplemental Data: BOX 538/ALLENTOWN, PA 18105. ITEM NOT REGULATED AS A RCRA HAZARDOUS WASTE BY THE FEDERAL EPA, BUT MAY BE REGULATED IN CERTAIN STATES.  
1st EPA Hazardous Waste Name New: NOT REGULATED  
1st EPA Hazardous Waste Char New: NOT REGULATED BY RCRA  
1st EPA Acute Hazard New: NO

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**Label Data**  
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Label Required: YES  
Technical Review Date: 06APR94  
Label Date: 06APR94  
Label Status: F  
Common Name: CARBON DIOXIDE/DRY ICE  
Chronic Hazard: YES  
Signal Word: DANGER!  
Acute Health Hazard-Severe: X  
Contact Hazard-Slight: X  
Fire Hazard-Severe: X

Reactivity Hazard-None: X

Special Hazard Precautions: CONCENTRATION IN EXCESS OF 1.5% CARBON  
DIOXIDE MAY CAUSE

DEATH. AT HIGHER CONCENTRATIONS, DISPLACES OXYGEN IN AIR BELOW LEVELS  
NECESSARY TO  
SUPPORT LIFE.

TARGET ORGANS: RESPIRATORY SYSTEM, SKIN.

CARCINOGEN: FORMALDEHYDE.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y