

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