

AIR PRODUCTS AND CHEMICALS INC. -- CARBON DIOXIDE, DRY ICE (SOLID ONLY) --
4210-00-288-7219

===== Product Identification =====

Product ID: CARBON DIOXIDE, DRY ICE (SOLID ONLY)

MSDS Date: 02/18/1981

FSC: 4210

NIIN: 00-288-7219

MSDS Number: CBSZL

=== Responsible Party ===

Company Name: AIR PRODUCTS AND CHEMICALS INC.

Address: 7201 HAMILTON BLVD

City: ALLENTOWN

State: PA

ZIP: 18195-1501

Country: US

Info Phone N

um: 215-481-4911

Emergency Phone Num: 800-523-9374

CAGE: 00742

=== Contractor Identification ===

Company Name: AIR PRODUCTS AND CHEMICALS INC

Address: 7201 HAMILTON BLVD

Box: City: ALLENTOWN

State: PA

ZIP: 18195-1501

Country: US

Phone: 800-345-3148 / 800-752-1597

CAGE: 00742

Company Name: BADGER FIRE PROTECTION INC

Address: 4261 SEMINOLE TRAIL

Box: City: CHARLOTTESVILLE

State: VA

ZIP: 22901

Country: US

Phone: 804-973-4361

CAGE: 6L214

Company Name: HARD HAROLD D CO

Address: 2040 OAKLAND PARK AVE

Box: City: COLUMBUS

State:

OH
ZIP:43224-3848
Country:US
Phone:614-471-9700
CAGE:24871

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Composition/Information on Ingredients
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Ingred Name:CARBON DIOXIDE
CAS:124-38-9
RTECS #:FF6400000
Other REC Limits:NONE RECOMMENDED
OSHA PEL:5000 PPM
ACGIH TLV:5000PPM/30000STEL;96

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Hazards Identification
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LD50 LC50 Mixture:TLV IS 5000 PPM.
Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards

Acute and Chronic:TARGET ORGANS:LUNGS, CNS, EYES, SKIN.
ACUTE- CONTACT WITH LIQUID CAN CAUSE SKIN FROSTBITE. GAS MAY CAUSE
EYE IRRITATION. ASPHYXIANT. INHALATION MAY CAUSE RESPIRATORY
ACIDOSIS. HIGH CONCENTRATIONS MAY CAUSE RAPID CIRCULATORY
INSUFFICIENCY LEADING TO DEATH. INGESTION IS NOT LIKLEY (GAS).
CHRONIC- UNKNOWN.

Explanation of Carcinogenicity:NONE
Effects of Overexposure:EYE OR SKIN FROSTBITE AND FREEZE BURNS,
HEADACHE, DROWSINESS, DIZZINESS, STINGING OF THE EYE
S, NOSE AND
THROAT, EXCITATION, RAPID BREATHING AND HEART RATE, EXCESS
SALIVATION, SHORTNESS OF BREATH, MUSC ULAR WEAKNESS, RINGING IN THE
EAR, UNCONSCIOUSNESS, COMA, NAUSEA, VOMITING, WATERY EYES
(FORMATION OF WEAK CABONIC ACID)

Medical Cond Aggravated by Exposure:PERSONNEL WITH PRE-EXISTING CHRONIC
RESPIRATORY DISEASES OR HEART DISORDERS SHOULD REFRAIN FROM
BREATHING EXCESSIVE CARBON DIOXIDE.

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First Aid Measures
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First A

id:INHALATION:REMOVE TO FRESH AIR. PROVIDE CPR/OXYGEN IF NEEDED.
EYES:IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES. SEE AN
OPHTHALMOLOGIST, URGENTLY. SKIN:FLUSH WITH WARM WATER (NOT TO
EXCEED 107 F). PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES
OF OVEREXPOSURE TO CO2. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH
SELF CONTAINED BREATHING APPARATUS. ORAL:NOT LIKELY.

===== Fire Fighting Measures =====

Flash Point:NONE

Extinguishing M

edia:CARBON DIOXIDE CANNOT CATCH FIRE. USE WATER FOG,
CARBON DIOXIDE, FOAM, OR DRY CHEMICAL FOR SURROUNDING FIRE.

Fire Fighting Procedures:WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A
NIOSH-APPROVED SELF CONTAINED BREATHING APPARATUS. COOL FIRE
EXPOSED CONTAINERS WITH WATER SPRAY. EVACUATE AREA.

Unusual Fire/Explosion Hazard:THOUGH GAS CYLINDERS ARE EQUIPPED WITH
PRESSURE RELIEF DEVICES, THEY SHOULD BE REMOVED FROM FIRE TO AVOID
RISK OF RUPTURE.

===== Accident
al Release Measures =====

Spill Release Procedures:LIQUID CARBON DIOXIDE WILL FORM SOLID CO2 (DRY
ICE) WHEN RELEASED TO ATMOSPHERIC PRESSURE. THE AREA SHOULD BE
VENTILATED. CLEAN UP PERSONNEL SHOULD WEAR SELF-CONTAINED BREATHING
APPARATUS WITH FULL FA CE MASK AND HEAVY PROTECTIVE CLOTHING.

Neutralizing Agent:NOT RELEVANT

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN A COOL, WELL-VENTILATED
PLACE. DO

NOT STORE ABOVE 120F. KEEP OUT OF REACH OF CHILDREN.

Other Precautions:KEEP AWAY FROM SOURCES OF HEAT. CAUTION! CAN CAUSE
RAPID SUFFOCATION DUE TO OXYGEN DEFICIENCY. USE WITH ADEQUATE
VENTILATION. CO2 IS HEAVIER THAN AIR AND TENDS TO ACCUMULATE NEAR
THE FLOOR IN CLOSED S PACES. READ ALL LABELS INSTRUCTIONS.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE REQUIRED UNDER NORMAL USE. HOWEVER,
AIR-SUPPLIED RESPIRATORS ARE REQUIRED WHI

LE WORKING IN CONFINED

SPACES WITH THIS PRODUCT. THE RESPIRATORY PROTECTION USE MUST CONFORM WITH OSHA RULES AS SPECIFIED IN 29 CFR 1910.134.

Ventilation:SUFFICIENT TO PREVENT ACCUMULATION ABOVE TLV. LOCAL EXHAUST LOCATED NEAR THE FLOOR.

Protective Gloves:INSULATED AND COLD RESISTANT NEOPRENE

Eye Protection:SAFETY GOGGLES RECOMMENDED

Other Protective Equipment:EYE WASH STATION, SAFETY SHOWER, INDUSTRIAL-TYPE WORK CLOTHING, SAFETY SHOES AND APRON AS REQUIRED.

Work Hygienic Practices:

OBSERVE GOOD PERSONAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES.

Supplemental Safety and Health

===== Physical/Chemical Properties =====

HCC:G3

NRC/State Lic Num:NOT RELEVANT

Boiling Pt:B.P. Text:SUBLIMES

Melt/Freeze Pt:M.P/F.P Text:-70F,-57C

Decomp Temp:Decomp Text:-109F,-78C

Vapor Pres:42963 @68F

Vapor Density:1.53

Spec Gravity:1.56 @ -110F

pH:ACIDIC

Viscosity:NOT RELEVANT

Evaporation Rate & Reference:NOT RELEVANT

Solubility in Water:87.8% @ 68F (20

C)

Appearance and Odor:COLORLESS, ODORLESS GAS OR LIQUID

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

MATERIALS AFFECTED BY CARBONIC ACID IN THE PRESENCE OF MOISTURE

Stability Condition to Avoid:OVERHEATING CYLINDERS, MOISTURE

Hazardous Decomposition Products:NONE

===== Disposal Considerations =====

Waste Disposal Methods:SLOWLY RELEASE INTO ATMOSPHERE OUTDOORS. DISPOSAL SHOULD BE IN COMPLIA

NCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. DEFECTIVE CYLINDERS SHOULD BE TAGGED TO INDICATE A DEFECT.

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