

UNION CARBIDE CORP LINDE DIV -- CARBON DIOXIDE -- 4210-01-078-3669

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

Product ID:CARBON DIOXIDE

MSDS Date:05/01/1991

FSC:4210

NIIN:01-078-3669

MSDS Number: BRRKS

=== Responsible Party ===

Company Name:UNION CARBIDE CORP LINDE DIV

Address:39 OLD RIDGEBURY RD

City:DANBURY

State:CT

ZIP:06817-0001

Country:US

Info Phone Num:203-744-3487

Emergency Phone Num:203-744-3487

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AGE:36346

=== Contractor Identification ===

Company Name:HILLER SYSTEMS INC

Address:833 PRINCIPAL LN

Box:City:CHESAPEAKE

State:VA

ZIP:23320

Country:US

Phone:757-549-9123

CAGE:1DA54

Company Name:KIDDE FENWAL INC

Address:400 MAIN ST

Box:City:ASHLAND

State:MA

ZIP:01721-2150

Country:US

Phone:508-881-2000

CAGE:0KDP7

Company Name:UNION CARBIDE CORP LINDE DIV

Address:39 OLD RIDGEBURY RD

Box:City:DANBURY

State:CT

ZIP:06817-0001

Country:US

Phone:800-822-4357; 304-744-3487

CAGE:36346

===== Com

position/Information on Ingredients =====

Ingred Name:CARBON DIOXIDE  
CAS:124-38-9  
RTECS #:FF6400000  
Fraction by Wt: 100%  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:5000 PPM  
ACGIH TLV:5000PPM/30000STEL;95

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:INGEST:UNLIKELY ROUTE OF EXPO.PROD GAS  
@NORMAL TEMP/PRESSURES.SKIN AB  
SORP:NO EVIDENCE OF ADVERSE EFFECTS  
FRM AVAILABLE INFO.INHAL:ASPHYXIANT.MODERATE CONCEN MAY CAUSE  
HEAD,DROW,DIZZ,STINGING OF NOSE/T HROAT,EXCITATION,RAPID BREATHING  
& HEART RATE,EXCESS SALIVATION,VOMIT,UNCONSC.SKIN/EYE:NO HARMFUL  
EFFECT EXPECTED (SUPP)  
Explanation of Carcinogenicity:NONE OF THE INGREDIENTS IN THIS PRODUCT  
IS LISTED BY NTP, IARC OR OSHA AS A CARCINOGEN.  
Effects of Overexposure:DAMAGE TO RETINAL GANGLLON CELLS & CNS MAY  
OCCUR. FROSTBITE. HEADACHE, DROWSINES  
S, DIZZ, STINGING OF  
NOSE/THROAT,ESCITATION, RAPID BREATHING & HEART RATE, EXCESS  
SALIVATION, VOMITING, UNCONSCIOUSNESS.  
Medical Cond Aggravated by Exposure:KNOWLEDGE OF AVAILABLE TOXICOLOGY  
INFO & OF PHYSICAL & CHEM PROPERTIES OF MATL SUGGEST THAT OVEREXPO  
IS UNLIKELY TO AGGRAVATE EXISTING MED CONDITIONS.

===== First Aid Measures =====

First Aid:SKIN:EXPO TO COLD VAP/SOLID IMMED WARM FROSTBITE AREA W/WARM  
WATER(NOT TO EXCEED 105F).MASS  
IVE EXPO REMOVE CLOTH WHILE SHOWERING  
W/WARM WATER.OBTAIN MED ATTN.INHAL:REMOVE TO FRESH AIR.NOT BREATH  
GIVE ART RESP.QUALIFIED PERSONNEL MAY GIVE OXY IF BREATH IS  
DIFFICULT.OBTAIN MED ATTN.EYE:EXPO TO COLD VAP/SOLID IMMED FLUSH  
WELL W/WATER FOR @LEAST 15MINS.OBTAIN MED ATTN PREFERABLY  
OPHTHALMOLOGIST (SUPP)

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

Extinguishing Media:CARBON DIOXIDE CANNOT CATCH FIRE. USE MEDIA  
APPROPRIATE FOR SURROUNDING FI

RE.

Fire Fighting Procedures:EVACUATE ALL PERSONNEL FROM DANGER AREA.IMMED  
DELUGE CNTNRS W/WATER SPRAY FROM MAXIMUM DISTANCE UNTIL COOL THEN  
MOVE CNTNRS AWAY FROM FIRE AREA IF W/O RISK.

Unusual Fire/Explosion Hazard:GAS CANNOT CATCH FIRE.CNTNR MAY RUPTURE  
DUE TO FIRE HEAT.NO PART OF CNTNR SHOULD BE SUBJ TO TREMP >52C.MOST  
CNTNRS ARE PROVIDED W/PRESS RELIEF DEVICE (SUPPLEME)

===== Accidental Release Measures =====

Spill Release Procedures:EVACUATE PER  
SONNEL.USE SCBA WHERE NEEDED.SHUT  
OFF W/O RISK.VENTI & MOVE CNTNR TO WELL VENTIL AREA.TEST ESPECIALLY  
CONFINED AREAS FOR SUFFI OXY CONTENT PRIO TO PREMITTING RE-ENTRY OF  
PERSONNEL.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:USE PIPE/EQPMT ADEQ DESIGNED TO  
W/STAND PRESS.CAN CAUSE RAPID SUFFOCATION DUE TO OXY  
DEFICIENCY.STORE/USE W/ADEQ VENTIL.CLS VAL WHEN NOT IN USE/E  
MPTY.

Other Precautions:GAS HEAVIER THAN AIR ACCUMULATE NEAR FLOOR DISPLACING  
AIR.VENTI AREA BEF ENTRY.VERIFY SUFF OXY CONCEN.WHEN 2 OR MORE  
GASES MIXED HAZ PROP MAY COMBINE.CONSULT INDUST HYGIENIST TO  
EVALUATE MIXTURE.READ/ UNDERSTAND LABLES/INSTURCTIONS W/MATL.

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

Respiratory Protection:SELECT IAW OSHA29CFR1910.134/ANSI Z88.2.CONCEN  
10X APPLICABLE EXPO LIMIT ANY NIOSH/MSHA APPROVED SUPPLIED AIR  
RESP.UP 50X N

IOSH/MSHA APPROVED RESP W/FULL FACEPC OR SCBA.HIGHER  
CONCEN USE ONLY SCBA OPE RATED IN PRESSURE-DEMAND MODE.

Ventilation:LOCAL EXHAUST:PREFERRED. MECHANICAL(GENERAL):ACCEPTABLE.

Protective Gloves:INSULATED NEOPRENE GLOVES.

Eye Protection:SELECT IAW OSHA 29CFR1910.133.

Other Protective Equipment:METATARSAL SHOES FOR CYL HANDLING.SELCE IAW  
OSHA 29CFR1910.132 & 1910.133.

Work Hygienic Practices:PAMPHLET P-1 FRM COMP GAS ASSOC INC,1235 JEF  
DAVID HYWAY,ARLINGTON,VA22202.NEVER WORK ON PRES

SURIZED SYSTEM.

Supplemental Safety and Health

SUBLIM PT 760MM HG:-78.5C. FIRE/EXPLO HAZ:DESIGNED TO VENT WHEN EXPO HI  
TEMP. HEALTH HAZ:FROM GAS.COLD VAP/SOLID CARBON DIOXIDE MAY CAUSE  
FROSTBITE.CHRONIC:NO EVIDENCE FROM AVAILABLE INFO. 1ST AID:IMME  
D.NOTE TO DR:NO SPECIFIC ANTIDOTE.TREATMENT OF OVEREXPO SHOULD BE  
DIRECTED @CNTRL OF SYMPTOMS/CLINICAL VICTIM CONDITONS.

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

HCC:G3

Boiling Pt:B.P. Text:SEE SUPPLEM

Vapo

r Pres:830 @21C

Vapor Density:1.522 @21C

Evaporation Rate & Reference:HIGH,(N-BUTYL ACETATE=1)

Solubility in Water:SLIGHT

Appearance and Odor:COLORLESS GAS AT NORMAL TEMPERATURE & PRESSURE;  
ODORLESS.

Percent Volatiles by Volume:100

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

Stability Indicator/Materials to Avoid:YES

ALKALI METALS,ALKALINE EARTH METALS,METAL ACETYLIDES,CHROMIUM,TITANIUM  
>550C,URANIUM >750C.

Stability Condition to Avoid:NONE SPECIFIED BY MANU  
FACTURER.

Hazardous Decomposition Products:IN THE PRESENCE OF ELECTRICAL  
DISCHARGE, CARBON DIOXIDE IS DECOMPOSED TO FORM CARBON MONOXIDE &  
OXYGEN.

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

Waste Disposal Methods:SLOWLY RELEASE INTO ATM OUTDOORS.DISCARD ANY  
PROD/RESIDUE/DISPOSABLE CNTNR OR LINER IN ENVIRONMENTALLY  
ACCEPTABLE MANNER IN FULL COMPLIANCE W/LOCAL, STATE AND FEDERAL  
REGULATIONS.

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g agencies):

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