

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

C

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 LABELS/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.

Disclaimer (provided with this information by the compilin

g agencies):

This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.