

SUNOX INC -- DRY ICE -- 6830-01-165-6174

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Product Identification  
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Product ID:DRY ICE  
MSDS Date:10/10/1988  
FSC:6830  
NIIN:01-165-6174  
MSDS Number: BVBLZ  
=== Responsible Party ===  
Company Name:SUNOX INC  
Address:4236 STATESVILLE RD  
Box:33871  
City:CHARLOTTE  
State:NC  
ZIP:28233  
Country:US  
Info Phone Num:704-596-6262  
Emergency Phone Num:704-596-6262  
CAGE:6Z872  
=== Contractor Identification ===  
C  
Company Name:SUNOX INC  
Address:4236 STATESVILLE RD  
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Composition/Information on Ingredients  
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Ingred Name:CARBON DIOXIDE  
CAS:124-38-9  
RTECS #:FF6400000  
OSHA PEL:10000PPM; 30000 STEL  
ACGIH TLV:5000 PPM; 30000 STEL

Ingred Name:MATLS TO AVOID:MAGNESIUM, ALUMINUM, TITANIUM/ZIRCONIUM),  
THEIR HYDRIDES & MATLS LIKE DIETHYL MAGNESIUM, MOIST (ING 3)  
RTECS #:9999999ZZ

Ingred Name:ING 2:CES

IUM OXIDE/LITHIUM ACETYLIDE W/AMMONIA CAN IGNITE  
IN CO\*2 ATM. DRY ICE CAN FORM SHOCK SENSITIVE MIX WITH (ING 4)  
RTECS #:9999999ZZ

Ingred Name:ING 3:SODIUM, POTASSIUM OR SODIUM-POTASSIUM ALLOY.  
RTECS #:9999999ZZ

Ingred Name:EFTS OF OVEREXP:COULD RSLT IN FROSTBT/CRYOGENIC (FREEZE)  
"BURNS." CNTCT W/LIQ/SOLID CAN PRDCE FROSTBT & FREEZE (ING 5)  
RTECS #:9999999ZZ

Ingred Name:ING 5:BURNS. EFTS ARE CHANGE IN COLOR OF SKIN TO GRAY/WHITE  
POSS FOLLOWED BY BLISTERING. CO\*2 IS MOST POWERFUL (I  
NG 7)  
RTECS #:9999999ZZ

Ingred Name:ING 6:CEREBRAL VASODIALTOR KNOWN. INHAL LG CONC CAUSES  
RAPID CIRCULATORY INSUFFICIENCY LEADING TO COMA & DEATH. (ING 8)  
RTECS #:9999999ZZ

Ingred Name:ING 7:CHRONIC, HARMFUL EFTS ARE NOT KNOWN FROM RPTD INHAL  
OF LOW (3-5 MOLAR %) CONC.  
RTECS #:9999999ZZ

Ingred Name:FIRST AID PROC:MED ASSISTANCE SHOULD BE SOUGHT IMMED.  
SKIN:FROSTBT:FLUSH AFFECTED AREAS W/LUKEWARM WATER. DO (ING 10)  
RTECS #:9999999ZZ

Ingred Name:ING 9:NOT USE HOT WATER. MD SHOULD  
SEE PROMPTLY IF  
CRYOGENIC "BURN" HAS RSLTD IN BLISTERING OF DERMAL SURF/DEEP (ING  
11)  
RTECS #:9999999ZZ

Ingred Name:ING 10:TISS FREEZING. PROMPT MED ATTN MANDATORY IN ALL  
CASES OF OVEREXP. RESCUE PERS SHOULD BE EQUIPPED WITH (ING 12)  
RTECS #:9999999ZZ

Ingred Name:ING 11:NIOSH/MSHA SELF-CONTAINED BREATHING APPARATUS.  
RTECS #:9999999ZZ

Ingred Name:WASTE DISP METH:HVR/AIR. DO NOT PUT DRY ICE IN CLSD CNTNR  
WHERE EVOLVED GAS CANNOT ESCAPE! REMOVE SCRAP SOLID (ING 14)  
RTECS #:99999

99ZZ

Ingred Name:ING 13:("SNOW" OR "DRY ICE") TO HOOD W/FORCED VENT OR TO A  
REMOTE OUTSIDE AREA. ALLOW SOLID TO SUBLIME.  
RTECS #:9999999ZZ

Ingred Name:HNDLG/STOR PREC:WHICH OPEN FROM TOP HAVING LOOSE-FITTING  
LIDS SO CO\*2 VAPOR FROM SUBLIMATION OF SOLID MAY BE (ING 16)  
RTECS #:9999999ZZ

Ingred Name:ING 15:ALLOWED TO ESCAPE INTO ATM. FOR ADDNL HNDLG & STOR  
RECOM SEE CGA PAMPHLETS P-1 & G-6.  
RTECS #:9999999ZZ

Ingred Name:OTHER PREC:W/MOST PLASTICS & ELASTOMERS. ALSO SEE CGA  
PAMP  
HLET G-6.3.  
RTECS #:9999999ZZ

Ingred Name:OTHER PROT EQUIP:TEMP) TO PVNT FREEZE BURNS & FROSTBT IF  
MORE THAN MOMENTARY CNTCT W/CO\*2 AT LOW TEMP IS POSS.  
RTECS #:9999999ZZ

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

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.  
Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:NERVOUS SYS CONTROL OF RESP IS  
DEPENDENT ON CO\*2 LEVEL BR  
EATHED IN AIR. BY REDUCING O\*2 LEVEL IN  
AIR, CO\*2 CAN CAUSE SUFFOCATION. SYMP OF OVEREXP INCL HDCH, DIZZ,  
SHORTNESS OF BREATH, MUSC WEAK, DROW & RINGING IN EARS. INHAL:LOW  
CONC (3-5 MOLAR %) CAUSE INCR RESP & HDCH. 8-15 MOLAR % CONC CAUSE  
HDCH, (EFTS OF OVEREXP)  
Explanation of Carcinogenicity:NOT RELEVANT  
Effects of Overexposure:HLTH HAZ:NAUS & VOMIT WHICH MAY LEAD TO UNCON  
IF NOT MOVED TO OPEN AIR/GIVEN O\*2. HIGH CONC CAUSE RAPID  
CIRCULATORY INSUFFICIENCY LEADING TO COM  
A & DEATH. WHEN  
REFRIGERATED LIQ CO\*2 IS VAPORIZED THRU AN ORIFICE, IT CAN FORM  
SOLID PARTICLES OF CO\*2 ("SNOW"/"DRY ICE" PWDR). CONTINUOUS DERMAL  
CNTCT W/COLD SNOW (ING 5)  
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

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

First Aid:INGEST:CALL MD IMMED. EYES:IMMED FLUSH W/POTABLE WATER FOR  
MIN OF 15 MIN, SEEK ASSISTANCE FROM MD. INHAL:IF CONSCIOUS, ASSIST  
TO UNCONTAMD AREA & INHALE FRESH

AIR. QUICK REMOVAL FROM AREA IS MOST IMPORTANT. IF UNCON, MOVE TO UNCONTAMD AREA, GIVE MOUTH-TO-MOUTH RESUSCITATION & SUPPLEMENTAL O\*2. ASSURE THAT VOMITED MATL DOES NOT OBSTRUCT AIRWAY BY USE OF POSITIONAL DRAINAGE. (ING 9)

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

Extinguishing Media:NONFLAMMABLE, INERT GAS.  
Fire Fighting Procedures:USE NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP.  
USE WATER SPRAY TO COOL FIRE-EXPOS CNTNRS TO PVNT RUPTURE. MATL IS

NON-COMBUST. IT CAN BE USED AS (SUPDAT)  
Unusual Fire/Explosion Hazard:WATER SPRAY IS NOT EFTIVE FOR USE ON FIRES INVOLVING CHEM THAT HAVE THEIR OWN O\*2 SUPPLY (I.E. CELLULOSE NITRATE)/ON FIRES INVOLVING REACTIVE METALS (SUPDAT)

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

Spill Release Procedures:EVACUATE AREA OF MAJOR SPILL/RELS OF CO\*2.  
NOTIFY SFTY PERS. PROVIDE VENT. CLEAN-UP PERS NEED SPECIAL TRAINING & PROT AGAINST CNTCT W/VERY COLD MATL/EXCESSIVE INHAL OF GASEOUS CO\*2.  
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:SOLID CO\*2 GENERALLY DELIVERED IN KRAFT-PAPER-WRAPPED BLOCKS WEIGHING APPROX 50 LBS & APPROX 1/2 CUBIC FT IN VOL. STORE IN INSULATED CNTNRS (ING 15)  
Other Precautions:DRY CO\*2 CAN BE HNDL W/MOST COMMON STRUCTURAL MATLS. MOIST CO\*2 IS CORR BY ITS FORM OF CARBONIC ACID. FOR APPLICATNS 316,309 & 310 STAINLESS STEELS MAY BE USED AS WELL AS HASTELLOY A, B & C & MONEL. AT NORM TEMP, CO\*2 IS COMPATIBLE (ING 17)

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

Respiratory Protection:PROVIDE NIOSH/MSHA APPRVD SUPPLIED-AIR OR SELF-CONTAINED RESP FOR USE IN NON-ROUTINE/EMER SITUATIONS W/EXPOS ABOVE TLV. FULL FACEPIECE IS REQD FOR CONC > 10%. PROVIDE STANDBY PERSON(S) W/RESCUE EQUIP IF WORK REQD AT > 15% CO\*2 IN AIR.  
Ventilation:GENERAL AND LOCAL EXHAUST VENTILAT

ION TO MEET TLV  
REQUIREMENTS.

Protective Gloves: LOOSE FITTING, INSULATED GLOVES.

Eye Protection: ANSI APPROVD CHEM WORK GOGGLES (SUP DATA)

Other Protective Equipment: SFTY SHOES, SOLID CO\*2 HNDLG "TONGS." MAY  
REQ ADDNL PROT CLTHG (APRON, FSHLD, ETC WHICH ARE RESISTANT TO LOW  
(ING 18)

Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Supplemental Safety and Health

FIRE FIGHT PROC: FIRE EXTING AGENT PRIMARILY FOR ITS SMOTHERING EFT  
(REDUCTION OF O\*2 CONC TO PT WHERE IMMED ATM CAN  
NOT SUPPORT

COMBUST). EXPL HAZ: (SUCH AS POTASSIUM, SODIUM, MAGNESIUM,  
ALUMINUM, TITANIUM & ZIRCONIUM) OR THEIR HYDRIDES AS THESE MATLS  
CAN DECOMPOSE CARBON DIOXIDE. EYE PROT: W/FULL LNGTH FCSHIELD .

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

Boiling Pt: B.P. Text: -109F, -79C

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

Vapor Pres: 844.7 PSIA

Vapor Density: 0.1144

Solubility in Water: COEFFICIENT = 0.8704

Appearance and Odor: WHITE OPAQUE SOLID; COLORLESS, ODORLESS GAS.

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

Stability Indicator/Materials to Avoid: YES

EXPL CAN OCCUR WHEN CNTCTS MIX OF SODIUM PEROXIDE  
W/ALUMINUM/MAGNESIUM. REACTIVE METALS (SUCH AS ALKALI METALS (ING  
2)

Stability Condition to Avoid: DECOMPOSES TO CO & O\*2 WHEN HEATED ABOVE  
1700C. WILL REACT W/ALKALINE MATLS TO FORM CARBONATES &  
BICARBONATES.

Hazardous Decomposition Products: CARBON MONOXIDE. FORMS CARBONIC ACID  
IN THE PRESENCE OF WATER.

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

Waste Disposal Methods: DISP MUST BE I/A/W FED, STATE & LOCAL REGS.

ALLOW GAS TO BLEED OFF AT MOD RATE/SOLID TO SUBLIME TO WELL VENT  
AREA. INSULATED STOR CNTNR SHOULD BE IN AREA W/ADEQ VENT TO PVNT  
ACCUM OF CO\*2 VAPS ABOVE TWA. CO\*2 VAP ARE APPROX 1 1/2 TIMES (ING  
13)

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