

OCCUPATIONAL HEALTH SERVICES INC -- 1,4-DIOXANE, D-111 -- 6810-00-050-3430

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

Product ID:1,4-DIOXANE, D-111

MSDS Date:06/27/1988

FSC:6810

NIIN:00-050-3430

MSDS Number: CDWZD

=== Responsible Party ===

Company Name:OCCUPATIONAL HEALTH SERVICES INC

Address:450 7TH AVE SUITE 2407

City:NEW YORK

State:NY

ZIP:10123

Country:US

Info Phone Num:212-967-1100

Emergency Phone Nu

m:615-292-1180

CAGE:DO501

=== Contractor Identification ===

Company Name:OCCUPATIONAL HEA & SAFETY,FORD MOTOR CO

Address:900 PARKLANE TOWERS WEST

City:DEARBORNE

State:MI

ZIP:48126

Phone:800-959-3673

CAGE:DO501

Company Name:OCCUPATIONAL HEALTH SERVICES INC

Address:11 W 42ND ST 12 THE FLOOR

City:NEW YORK

State:NY

ZIP:10036

Country:US

Phone:212-789-3535

CAGE:0G9K0

===== Composition/Information on Ingredients =====

Ingred Name:P-DIOXANE; (1,4-DIOXANE) (SARA 313) (CERCLA)

CAS:123-

91-1
RTECS #:JG8225000
Fraction by Wt: 100%
OSHA PEL:100 PPM, S
ACGIH TLV:25 PPM, S
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:SUPDAT:FLOODING AMTS AS FOG, SOLID STREAMS MAY NOT BE
EFTIVE. COOL CNTNRS W/FLOODING QTYS OF WATER, APPLY FROM AS(ING 3)
RTECS #:9999999ZZ

Ingred Name:ING 2: FAR A DIST AS POSS. AVOID BRTHG TOX VAPS, KEEP
UPWIND. USE WATER SPRAY, DRY CHEM, ALCOHOL FOAM OR CO*2 TO (ING 4)
RTECS #:9999999ZZ

Ingred Name:ING 3: FIGHT FIRE. USE WATER TO KEEP FIRE-EXPOS CNT
NRS
COOL. IF LEAK/SPILL HAS NOT IGNITED, USE WATER SPRAY TO (ING 5)
RTECS #:9999999ZZ

Ingred Name:ING 4: DISPERSE VAPS & PROTECT PERS ATTEMPTING TO STOP
LEAK. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM (ING 6)
RTECS #:9999999ZZ

Ingred Name:ING 5: EXPOS & TO DILUTE SPILLS TO NONFLAM MIXS. WATER MAY
BE INEFTIVE.
RTECS #:9999999ZZ

Ingred Name:EFTS OF OVEREXP:& KIDNEY DMG IN ANIMALS. EYE:VAPS MAY CAUSE
IRRIT @ CONCS >220PPM. NO SERIOUS DISTURB BY EXTERNAL(ING 8)
RTECS #:999
9999ZZ

Ingred Name:ING 7: CNTCT REPORTED. INGEST:NO HUMAN DATA AVAIL. LG DOSES
RSLTD IN WEAK, DEPRESS, COMA & DEATH IN ANIMALS. (ING 9)
RTECS #:9999999ZZ

Ingred Name:ING 8: AUTOPSY REVEALED HEMORR AREAS IN PYLORIC REGION OF
STOM, BLADDER DISTENDED W/URINE, SLIGHT PROTEINURIA & (ING 10)
RTECS #:9999999ZZ

Ingred Name:ING 9:ENLARGED KIDNEYS. ASPIR MAY RSLT IN PNEUM. CHRONIC:
INHAL:MUC MEMB IRRIT, HDCH, VERTIGO, LOSS OF APPETITE,(ING 11)
RTECS #:9999999ZZ

Ingred Name:ING 10:NAUS & VO

MIT, PAIN & TENDERNESS IN ABDOMEN & LUMBAR
REGION, DROW, MALAISE, LIVER DMG. UREMIA, COMA, DEATH(ING 12)
RTECS #:9999999ZZ

Ingred Name:ING 11:FROM ACUTE RENAL FAILURE. AUTOPSIES SHOWED LUNG &
BRAIN CONGESTION, CNS DMG, LIVER NECROSIS, HEMORRHAGIC (ING 13)
RTECS #:9999999ZZ

Ingred Name:ING 12:NEPHRITIS & NECROSIS, LEUKOCYTOSIS & BRONCHOPNEUM.
SKIN:DRY & CRACKED, DERM, ECZEMA. SKIN ABSORPTION MAY (ING 14)
RTECS #:9999999ZZ

Ingred Name:ING 13:HAVE CONTRIBUTED TO DEATH OF WORKER AFTER
1 WK
EXPOS. ANIMAL STUDIES SHOW RPTD SKIN APPLICATN MAY RSLT IN(ING 15)
RTECS #:9999999ZZ
Other REC Limits:/K

Ingred Name:ING 14:LIVER & KIDNEY DMG. TUMOR PROMOTER ACTIVITY IN MICE
POSS. EYE:CONJ. INGEST:ANIMAL FEEDING STUDIES PRDCED (ING 16)
RTECS #:9999999ZZ

Ingred Name:ING 15: LIVER & KIDNEY DMG, ULCERATION OF STOM, HEPATOMAS,
CARCINOMAS OF NASAL CAVITY, KIDNEY PELVIS, LEUKEMIA, (ING 17)
RTECS #:9999999ZZ

Ingred Name:ING 16: LYMPHOSARCOMA, CHOLANGIOMAS & GALL BLADDER
CARCI
NOMAS. EMBRYO/FETUS EFTS DURING 6-15 DAYS OF PREGNANCY IN
RATS.
RTECS #:9999999ZZ

Ingred Name:FIRST AID: IMMED W/LG AMTS OF WATER OCCASNLY LIFT UPPER &
LOWER LIDS UNTIL NO EVID OF CHEM REMAINS (@ LST 15-20 (ING 19)
RTECS #:9999999ZZ

Ingred Name:ING 18:MIN). GET MED ATTN IMMED. INGEST:REMOVE BY GASTRIC
LAVAGE/EMESIS USING ACTIVATED CHARCOAL. DO NOT PERFORM(ING 20)
RTECS #:9999999ZZ

Ingred Name:ING 19: GASTRIC LAVAGE/EMESIS IF UNCON. MAINTAIN BLOOD
PRESS & RESP. GIVE O*2 IF RESP

DEPRESSED. TREAT SYMP & (ING 21)

RTECS #:9999999ZZ

Ingred Name:ING 20:SUPPORTIVELY. GET MED ATTN IMMED. PVNT ASPIR:KEEP
HEAD BELOW HIPS DURING VOMIT; USE PROT MEASURES DURING (ING 22)

RTECS #:9999999ZZ

Ingred Name:ING 21: LAVAGE. O*2 & LAVAGE SHOULD BE ADMIN BY QUALIFIED
MED PERS. NO SPECIFIC ANTIDOTE. TREAT SYMP & SUPPORTIVELY.

RTECS #:9999999ZZ

Ingred Name:SPILL PROC: HAZ AREA! KEEP UNNEC PEOPLE AWAY; ISOLATE AREA
& DENY ENTRY. SAFE DRINKING WATER & TOX ENFORCEMENT (ING 24)

RTE

CS #:9999999ZZ

Ingred Name:ING 23:ACT (PROPOSITION 65) PROHIBITS CONTAM ANY KNOWN
SOURCE OF DRINKING WATER W/CHEMS KNOWN TO CAUSE CANCER/REPRO TOX.

RTECS #:9999999ZZ

Ingred Name:HNDLG/STOR PRECS: ISOLATE FROM COMBUST/OXIDIZING MATLS &
ALL POSS SOURCES OF IGNIT. STORE AWAY FROM INCOMPAT SUBSTANCES.

RTECS #:9999999ZZ

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

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation:YES Skin:YES Ingestion

:YES

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO

Health Hazards Acute and Chronic:ACUTE: INHAL:NOSE, THORAT & RESP TRACT
IRRIT. CMPD HAS POOR WARNING PROPERTIES & CAN BE INHALED IN AMTS
THAT MAY CAUSE SERIOUS SYSTEMIC INJURY. SYMPS OF SYSTEMIC TOX INCL
HDCH, VERTIGO, DROW, DYSPNEA, NAUS & VOMIT, OLIGURIA, ANURIA,
HEPATOMEGALY & SEV LIVER & KIDNEY DMG. INHAL CAUSE INCRD
SALIVATION, (EFTS OF OVEREXP)

Explanation of Carcinogenicity:P-DIOXANE:IARC MONOGRAPHS, SUPP,
VOL 7,

PG 201. 1987:GROUP 2B. NTP 7TH ANNUAL RPT ON CARCINS, 1994:ANTIC TO
BE CARCIN.

Effects of Overexposure:HLTH HAZ:LACRIM, NARCOS & BEHAVIOR CHGS IN
ANIMALS. AUTOPSY SHOWED LUNG, LIVER & KIDNEY DMG, CONGESTION &
EDEMA OF LUNGS & INCRD BLOOD COUNTS. SKIN:IRRIT W/REDNESS & PAIN.
ALLERGIC CNTCT DERM REPORTED . SKIN ABSORPTION MAY OCCUR W/HDCH,
NAUS & VOMIT; PRDCED SIGNS OF UNSTEADINESS, INCOORD, NARCOS,
ERYTHEMA & LIVER(ING 7)

Medical Cond Aggravated by Exposure:PERS

ONS WITH PREEXISTING LIVER,
KIDNEY, PULMONARY OR SKIN DISORDERS MAY BE AT AN INCREASED RISK
FROM EXPOSURE.

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

First Aid:INHAL:REMOVE TO FRESH AIR IMMED. IF BRTHG HAS STOPPED GIVE
ARTF RESP. MAINTAIN AIRWAY & BLOOD PRESS & ADMIN O*2 IF AVAIL. KEEP
WARM & AT REST. ADMIN OF O*2 SHOULD BE PERFORMED BY QUALIFIED PERS.
GET M ED ATTN IMMED. SKIN: REMOVE CONTAMD CLTHG & SHOES IMMED. WASH
AREA W/SOAP OR MILD DETER
GENT & LG AMTS OF WATER UNTIL NO EVID OF
CHEM REMAINS (APPROX 15-20 MIN). GET MED ATTN IMMED. EYE: WASH (ING
18)

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

Flash Point Method:CC
Flash Point:54.0F,12.2C
Lower Limits:2.0%
Upper Limits:22%
Extinguishing Media:DRY CHEMICAL, CARBON DIOXIDE, HALON, WATER SPRAY OR
ALCOHOL FOAM. FOR LARGER FIRES USE WATER SPRAY, FOG OR ALCOHOL
FOAM.
Fire Fighting Procedures:NIOSH APPRVD SCBA & FULL PROT EQUIP . MOVE
CNTNR
FROM FIRE AREA IF POSS. COOL FIRE-EXPOS CNTNRS W/WATER FROM
SIDE UNTIL WELL AFTER FIRE IS OUT. (SUPDAT)
Unusual Fire/Explosion Hazard:DANGEROUS FIRE HAZ & MOD EXPLO HAZ WHEN
EXPOS TO HEAT/FLAME. VAP-AIR MIXS EXPLO. VAPS ARE HVR/AIR & MAY
TRAVEL CONSIDERABLE DIST TO IGNIT SOURCE & FLASH BACK.

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

Spill Release Procedures:SHUT OFF IGNIT SOURCES. STOP LEAK IF W/OUT
RISK. USE WATER SPRAY TO REDUCE VAPS. SM SPILLS:TAKE
UP
W/SAND/OTHER ABSORB MATL & PLACE INTO CNTNRS FOR LATER DISP. LG
SPILLS:DIKE FAR AHEAD OF SPILL FOR LA TER DISP. NO SMKNG, FLAMES OR
FLARES IN(ING 23)
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:STORE I/A/W 29 CFR 1910.106. PROTECT
AGAINST PHYSICAL DMG. OUTSIDE/DETACHED STOR PEF. INSIDE STOR
SHOULD BE IN STD FLAM LIQ STOR ROOM/CLOSET.(ING 25)
Other Precautions:SUBS

TANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE
IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS
WHICH MEET BONDING & GROUNDING GUIDELINES SPECIFIED IN NFPA
77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.

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

Respiratory Protection:USE NIOSH APPRVD RESPS. AT ANY CONC:SCBA W/FULL
FCPCE OPER IN PRESS-DEMAND/OTHER POS PRESS MODE. SUPPLIED AIR RESP
W/FULL FCPCE OPER IN PRESS DEMAND/OTHER POS
PRESS MODE IN COMBO

W/AUXILIARY SCBA OPER IN PRESS DEMAND/OTHER POS PRESS MODE.

Ventilation:PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENT TO MEET
PUBLISHED EXPOSURE LIMITS. VENT EQUIP MUST BE EXPLOSION-PROOF.

Protective Gloves:IMPERVIOUS GLOVES .

Eye Protection:ANSI APPRVD CHEM WORKERS GOGGLES .

Other Protective Equipment:ANSI APPROVED EYE WASH & DELUGE SHOWER .
APPROP PROT (IMPERVIOUS) CLTHG & EQUIP TO PVNT RPTD/PRLNGD SKIN
CONTACT.

Work Hygienic Practices:CONTACT LENSES SHOUL
D NOT BE WORN.

Supplemental Safety and Health

FIRE FIGHT PROC:STAY AWAY FROM STOR TANK ENDS. FOR MASSIVE FIRE IN STOR
AREA, USE UNMANNED HOSE HOLDER/MONITOR NOZZS, ELSE W/DRAW FROM AREA
& LET FIRE BURN. W/DRAW IMMED IN CASE OF RISING SOUND FROM V ENTING
SFTY DEVICE/ANY DISCOLORATION OFSTOR TANK DUE TO FIRE. EXTING ONLY
IF FLOW CAN BE STOPPED, USE WATER IN (ING 2)

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

Boiling Pt:B.P. Text:214F,101C

Melt/Freeze Pt:

M.P/F.P Text:53.0F,11.7C

Vapor Pres:27 @ 20C

Vapor Density:3.0

Spec Gravity:1.034

Evaporation Rate & Reference:2.7 (BUTYL ACETATE=1)

Solubility in Water:SOLUBLE

Appearance and Odor:COLORLESS LIQUID WITH A FAINT ETHER-LIKE ODOR.

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

Stability Indicator/Materials to Avoid:YES

NICKEL (RANEY)+HYDROGEN; OXIDIZERS(STRONG); SILVER PERCHLORATE. CNTCT
NEHC FOR COMPLETE LIST OF MATLS TO AVOID .

Stability Condition to Avoid:FORMS PER

OXIDES ON STANDING, ESP WHEN
CONTAMD W/MOISTURE. IF DISTILLED OR EVAPORATED TO DRYNESS, AN
EXPLOSION MAY OCCUR.

Hazardous Decomposition Products:THERMAL DECOMPOSITION PRODUCTS MAY
INCLUDE TOXIC OXIDES OF CARBON.

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

Waste Disposal Methods:OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS
WHEN STORING OR DISPOSING OF THIS SUBSTANCE.

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