

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

Product ID:1.4-DIOXANE, (DIETHYLENE ETHER)

MSDS Date:09/16/1996

FSC:6810

NIIN:00-174-6592

MSDS Number: BDFRB

=== Responsible Party ===

Company Name:FERRO CORP GRANT CHEMICAL DIV

Box:263

City:BATON ROUGE

State:LA

ZIP:70821-0263

Country:US

Info Phone Num:216-641-5324/504-654-6801

Emergency Phone Num:800-424-9300(CHEMTREC)

CAGE:7L118

=== Contrac

tor Identification ===

Company Name:APA INDUSTRIES INC

Address:5309 BOUGHNER ROAD

Box:City:ROCK CREEK

State:OH

ZIP:44084

Country:US

Phone:800-424-9300(CHEMTREC)

CAGE:4Y971

Company Name:FERRO CORP GRANT CHEMICAL DIV

Box:263

City:BATON ROUGE

State:LA

ZIP:70821-0263

Country:US

Phone:800-424-9300(CHEMTREC)

CAGE:7L118

Company Name:MMM SUPPLY INC

Address:1734 HAYES AVE

Box:City:LONG BEACH

State:CA

ZIP:90813-1145

Country:US

Phone:213-590-8633

CAGE:7X274

===== Composition/Information on Ingred

ients =====

Ingred Name:1,4-DIOXANE (DIETHYLENE DIOXIDE) (SARA 313) (CERCLA)
CAS:123-91-1
RTECS #:JG8225000
Fraction by Wt: >99.9%
OSHA PEL:S, 100 PPM
ACGIH TLV:S, 25 PPM; 9495
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

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

LD50 LC50 Mixture:LD50 (ORAL RAT) = 7.12 GM/KG
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO
Health Hazards Acute and Chronic:EYE:IRRI
TATION, MAY CAUSE CHEMICAL
BURNS. SKIN:MAY BE ABSORBED IN HARMFUL AMOUNTS. MAY CAUSE DRYING &
CRACKING OF SKIN. INHALATION:RESPIRATORY IRRITATION, HEADACHE,
NAUSEA, VOMITING, DROWSINESS, DIZZI NESS. INGESTION:MAY CAUSE
NAUSEA, VOMITING, DIARRHEA, LIVER & KIDNEY DAMAGE.
CHRONIC:HEPOTOXIN.
Explanation of Carcinogenicity:MFR GAVE THE ABOVE LISTINGS ON THE MSDS
BUT NO OTHER COMMENTS ABOUT CARCINOGENICITY WERE RECORDED.
Effects of Overexposure:EYE:IRRITATION, CHEMICAL BURNS. S
KIN:ABSORBED
IN HARMFUL AMOUNTS. DRYING & CRACKING OF SKIN.
INHALATION:RESPIRATORY IRRITATION, HEADACHE, NAUSEA, VOMITING,
DROWSINESS, DIZZINESS. INGESTION:NAUSEA, VOM ITING, DIARRHEA, LIVER
& KIDNEY DAMAGE.
Medical Cond Aggravated by Exposure:MFR GAVE NO INFORMATION OF MSDS.

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

First Aid:IF ANY IRRITATION PERSISTS OR SEVERE, GET MEDICAL ATTENTION.
EYE:FLUSH W/WATER FOR 15 MIN. SKIN:WASH W/SOAP & WATER. REMOV
E
CONTAMINATED CLOTHING & LAUNDER BEFORE REUSE. INHALED:REMOVE FROM
CONTAMINAT ED AREA. AID OR RESTORE BREATHING AS NEEDED.
INGESTED:GIVE TWO GLASSES OF WATER & INDUCE VOMITING IF MEDICAL
ATTENTION IS NOT AVAILABLE. GET IMMEDIATE MEDICAL ATTENTION.

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

Flash Point Method:CC
Flash Point:54F/12C
Autoignition Temp:Autoignition Temp Text:356F
Lower Limits:2.0
Upper Limits:22.2
Extinguishing Media:CO2, FOAM, DRY CHEMMI

CAL OR WATER

Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS & FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS.

Unusual Fire/Explosion Hazard:VERY FLAMMABLE LIQUID. VAPORS ARE HEAVIER THAN AIR & CAN TRAVEL ALONG SURFACES TO IGNITION SOURCES & FLASH BACK.

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

Spill Release Procedures:ELIMINATE IGNITION SOURCES. PICK UP LARGE SPILLS INTO APPROPRIATE CONTAINERS. ABSORB REMAINDER ON INERT MATERIAL. DO NOT FLUSH TO SANITARY SEWER SYSTEM OR ALLOW TO MIGRATE INTO GROUND WATER.

Neutralizing Agent:NONE

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

Handling and Storage Precautions:STORE UNDER INERT ATMOSPHERE.

Other Precautions:NONE

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

Respiratory Protection:USE SELF-CONTAINED BREATHING APPARATUS WHEN PEL IS EXCEEDED.

Ventilation:VENTILATE LOW AREAS ESPECIALLY NEAR FLOOR. KEEP VAPOR LEVEL BELOW PEL.

Protective Gloves:BUTYL RUBBER GLOVES

Eye Protection:GOGGLES

Other Protective Equipment:BTYL RUBBER CLOTHING & BOOTS

Work Hygienic Practices:MFR GAVE NO INFORMATION OF MSDS.

Supplemental Safety and Health

MEDICAL ADVICE:DIRECT PREPLACEMENT & PERIODIC EXAMINATIONS TO SYMPTOMS OF HEADACHE, DIZZINESS, NAUSEA, G/I DISTURBANCES. NOTE SKIN CONDITION PLUS RENAL & LIVER FUNCTIONS. IN HIGH LEVEL ACUTE EXPOSURES CHECK FOR B-HYDROXYETHYLACETIC, THE MAJPR URINARY METABOLITE.

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

HCC:F2

NRC/State Lic Num:NONE

Boiling Pt:B.P. Text:101.1C/214F

Melt/Freeze Pt:M.P/F.P Text:53.2F,11.8C

Vapor Pres:27 MM

Vapor Density:3.0

Spec Gravity:1.0356

Evaporation Rate & Reference:2.7 (BU-ACETATE=1)

Solubility in Water:100

Appearance and Odor:COLORLESS LIQUID, ETHER LIKE ODOR

Percent Volatiles by Volume:100

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

Stability Ind

icator/Materials to Avoid: YES

STRONG OXIDIZERS

Stability Condition to Avoid: IF EXPOSED TO AIR, ORGANIC PEROXIDES WILL DEVELOP

Hazardous Decomposition Products: N/A.

Conditions to Avoid Polymerization: WILL NOT OCCUR.

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

Waste Disposal Methods: INCINERATE IN EPA APPROVED MANNER I/A/W FEDERAL, STATE & LOCAL REGULATIONS. THIS CHEMICAL BIODEGRADES VERY SLOWLY IN THE ENVIRONMENT. CHEMICAL SPECIFIC ACCLIMATION OF ACTIVATED SLUDGE SYSTEMS PROVIDES VERY LIMITED TREATMENT CAPABILITY IN WASTE WATER.

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