

INTERNAL MATERIAL SAFETY DATA SHEET 476

ISSUE DATE: JANUARY 15 1990 DATE UPDATED: MARCH 6, 1991

CHEMICAL NAME: 1,4-DIOXANE

MANUFACTURER NAME/ADDRESS:
FERRO CORPORATION
GRAND CHEMICAL DIVISION
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MANUFACTURER PHONE NO:
504-654-6901 BUSINESS PHONE
800-424-9300 COMTREC

CAS OR TRADE NO.: 00000009

T EPA REPORTABLE QTY:

CHEMICAL FAMILY: N/A
FORMULA: CCH2CH2OCH2CH2

DOT SHIPPING NAME: FLAMMABLE LIQUID, DIOXANE
DOT HAZARD CLASS: FLAMMABLE LIQUID

SUBSIDIARY RISK:
1/4

UN I.D. NUMBER:
1165

ALIAS:
DIETHYLENE ETHER
P-DIOXANE

DIETHYLENE DIOXIDE

* SECTION : PHYSICAL DATA/HAZARDOUS INGRED *

BOILING POINT (@760MM HG)	VAPOR DENSITY (AIR=1)	SOLUBILITY (WEIGHT% IN WATER)
214 F	3.0	100

FREEZING/MELTING POINT /53.2	VOLUME & VOLATILE 100%	PH OF SOLUTIONS: N/A
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VAPOR PRESSURE 27 @ 20 C MMHG	EVAPORATION RATE: 2.7
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SPECIFIC GRAVITY (H2O=1) 1.0356 @ 20/20 C	BULK DENSITY N/A	HEAT OF SOLUTION N/A
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APPEARANCE AND ODOR:
COLORLESS LIQUID, ETHER LIKE ODOR

INGREDIENT: Z INGREDIENT: Z

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SECTION 2 & 3 FIRE/EXPLOSION HAZARD DATA

FLASH POINT DEG F (METHOD USED) 54 F, CC FLAMMABLE LIMITS IN AIR(% BY VOLUME) LEL: 2.0 UEL: 22.2 AUTOIGN 356 F

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, OR WATER

SPECIAL FIRE FIGHTING PROCEDURES: USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS. USE SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING. UNUSUAL FIRE AND EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY SETTLE IN LOW OR CONFINED AREAS. IF EXPOSED TO AIR, ORGANIC PEROXIDES WILL DEVELOP.

SECTION 4.1 HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMITS: ACCIH TLV: N/A

OSHA-PEL: N/A

MERS REC: N/A

CARCINOGENICITY STATUS (SOURCE): LISTED AS CARCINOGEN NTP-YES, OSHA-YES, IARC YES

TOXICITY DATA: EFFECTS OF OVEREXPOSURE, ETC.

ROUTES OF ENTRY: SKIN ABSORPTION, SWALLOWING, INHALATION, AND EYE CONTACT.

SHORT TERM EFFECT OF OVEREXPOSURE:

IN CONTACT WITH SKIN:

PROLONGED OR WIDE SPREAD EXPOSURE MAY RESULT IN THE ABSORPTION OF HARMFUL AMOUNTS OF MATERIAL. DRYING, CRACKING, AND IRRITATION OF THE SKIN MAY OCCUR.

IN CONTACT WITH EYES:

IRRITATING TO EYES, MAY CAUSE CHEMICAL BURNS.

INHALED:

COULD IRRITATE NOSE AND THROAT. MAY CAUSE HEADACHE, NAUSEA, VOMITING, DROWSINESS, DIZZINESS, LOSS OF APPELITE AND STOMACH PAIN.

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OF 7.2 GPMG. MAY CAUSE RUSSIA, VOMITING, DIARRHEA, LIVER AND KIDNEY.

DAMAGE.

THE TERM EFFECT OF OVEREXPOSURE

HEPATOXIN, CARCINOGENIC IN RATS AND GUINEA PIGS, PRODUCING MALIGNANT

TUMORS OF THE NASAL CAVITY, LIVER AND GALL BLADDER.

SECTION 4.2 EMERGENCY/FIRST AID PROCEDURE

RESPIRATION:

MOVE TO FRESH AIR USING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.

IF ARTIFICIAL RESPIRATION IF NOT BREATHING AND CONTACT A PHYSICIAN.

CONTACT:

INGEST IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, LIFTING

FOR ONE LOWER LIPS OCCASIONALLY. CONTACT A PHYSICIAN.

IN CONTACT:

REMOVE CONTAMINATED CLOTHING AND FLUSH SKIN WITH PLENTY OF WATER. CONTACT

PHYSICIAN IF IRRITATION PERSISTS.

ION:

DRINK GLASSES OF WATER AND INDUCE VOMITING IF MEDICAL ATTENTION IS NOT

AVAILABLE. CONTACT A PHYSICIAN.

TESTS TO PHYSICIAN (INCLUDING ANTIDOTES)

REPLACEMENT AND PERIODIC EXAMINATIONS SHOULD BE DIRECTED TO SYMPTOMS OF

TOXIC AND DIZZINESS, AS WELL AS NAUSEA AND GASTROINTESTINAL

IRRITATIONS. NOTE THE COMBINATION OF THE SKIN, RENAL AND LIVER FUNCTIONS.

CHANGES OF HIGH LEVEL ACUTE EXPOSURE, CHECK FOR B-HYDROXYETHYLACETIC,

MAJOR URINARY METABOLITE.

SECTION 5. REACTIVITY DATA

ABILITY:

ABLE

CONDITIONS TO AVOID:

IF EXPOSED TO AIR, ORGANIC PEROXIDES WILL DEVELOP.

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HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

CONDITIONS TO AVOID:

N/A

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

N/A

SECTION 6. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

ELIMINATE ALL SOURCES OF IGNITION. PICK UP LARGE SPILLS INTO APPROPRIATE CONTAINERS. ABSORB REMAINDER OF SPILL MATERIAL AND INCINERATE IN EPA APPROVED MANNER AS DEFINED BELOW. DO NOT FLUSH TO SANITARY SEWER SYSTEM OR ALLOW TO MIGRATE INTO THE GROUND WATER.

NEUTRALIZING CHEMICAL (X): NONE

WASTE DISPOSAL METHOD:

INCINERATE IN EPA APPROVED MANNER ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS. THIS CHEMICAL BIODEGRADES VERY SLOWLY IN THE ENVIRONMENT.

TOXICITY: ACUTE TOXICITY OF ACTIVATED SLUDGE SYSTEMS HAS BEEN SHOWN TO PROVIDE VERY LIMITED TREATMENT CAPABILITY IN WASTE SYSTEMS.

SECTION 7. SPECIAL PROTECTION

RESPIRATORY PROTECTION:

USE B338 WHEN THE PEL IS EXCEEDED.

SECTION 8. FEDERAL PROTECTION DATA

VENTILATION(TYPE):

VENTILATE LOW AREAS, ESPECIALLY NEAR THE FLOOR. -KEEP VAPOR LEVEL BELOW

EYE PROTECTION:

GOGGLES

GLOVES:

BUTYL RUBBER GLOVES

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OTHER PROTECTIVE EQUIPMENT.

PROTECTIVE CLOTHING AND BOOTS.

KEEP AWAY FROM STRONG OXIDIZERS. DO NOT DISTILL TO DRYNESS UNTIL PEROXIDES ARE PROVEN TO BE NONEXISTENT OR DESTROYED. STORE IN INERT ATMOSPHERE.

SECTION 9.1 SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS AND COMMENTS:

THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENT OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1988 AND 40 CFR PART 372.

HAZARD NAME AND HAZARD CLASSIFICATION: DIOXANE, FLAMMABLE LIQUID, UN 1155, PACKING GROUP II
HAZ. CLASS B DIVISION 2, CLASS 3, DIVISION 2, SUBDIVISION A
IMO/IMDG: DIOXANE, FLAMMABLE LIQUID, UN 1155, CLASS 3.2
DOT HAZARD SUBSTANCE (S) RQ (S): RQ=100 LB/45.4KG.

IF DISCHARGE OF CONTENTS OF THIS CONTAINER AND OTHER CONTAINERS IN THIS SHIPMENT EQUAL OR EXCEED, IN 24 HOURS, THE "RQ" AMOUNT SHOWN ABOVE, IMMEDIATELY REPORT THE DISCHARGE TO THE NATIONAL RESPONSE CENTER, 1-800-424-8302. NOTE: OTHER NOTIFICATIONS MAY BE REQUIRED IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
FSCA INVENTORY: YES.

SECTION 9.2 REFERENCES

REFERENCES:

SECTION 9.4 MISCELLANEOUS INFORMATION

MISCELLANEOUS INFORMATION:

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