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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 45095

NAME: 1,4-Difluorobenzene

SYNONYMS:

24 HOUR EMERGENCY TELEPHONE: (800) 535-5053(USA)
352-323-3500 (INTERNATIONAL)

TO REQUEST AN MSDS: (800) 869-9290

CUSTOMER SERVICE: (630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)
FLAMMABLE LIQUIDS (CATEGORY 2), H225

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. NO SMOKING.
P233 KEEP CONTAINER TIGHTLY CLOSED.
P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.
P241 USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT.
P242 USE ONLY NON-SPARKING TOOLS.
P243 TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE.
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.
P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.
P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM TO EXTINGUISH.
P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT
OTHERWISE
CLASSIFIED (HNOC)
OR NOT COVERED
BY GHS** NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_6H_4F_2$
MW: 114.09
CAS-NO. 540-36-3
PURITY: $\geq 99\%$ (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
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1,4-Difluorobenzene		
	FLAM. LIQ. 2; H225	<= 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE. MOVE OUT OF DANGEROUS AREA.
IF INHALED	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	FLUSH EYES WITH WATER AS A PRECAUTION.
IF SWALLOWED	DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	SMALL (INCIPIENT) FIRES MUST BE EXTINGUISHED WITH ALCOHOL RESISTANT FOAM, DRY CHEMICAL POWDER OR CARBON DIOXIDE. LARGE AMOUNTS OF
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WATER ARE INEFFECTIVE. COOL CONTAINERS WITH LARGE AMOUNTS OF WATER.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

CARBON OXIDES, HYDROGEN FLUORIDE

ADVICE FOR FIREFIGHTERS

WEAR SELF CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION

USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.
FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL PRECAUTIONS

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WETBRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13).

REFERENCE TO OTHER SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

AVOID INHALATION OF VAPOUR OR MIST. USE EXPLOSION-PROOF EQUIPMENT. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.
FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORE IN COOL PLACE. KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. CONTAINERS WHICH ARE OPENED MUST BE

CAREFULLY RESEALED AND KEPT UPRIGHT TO
PREVENT LEAKAGE.
MOISTURE SENSITIVE.

Store at RT

SPECIFIC END USE(S) APART FROM THE USES MENTIONED IN SECTION 1.2
NO OTHER SPECIFIC USES ARE STIPULATED.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL
HYGIENE AND SAFETY PRACTICE. WASH HANDS
BEFORE BREAKS AND AT THE END OF WORKDAY.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT
FOR EYE PROTECTION TESTED AND APPROVED UNDER
APPROPRIATE GOVERNMENT STANDARDS SUCH AS
NIOSH (US) OR EN 166(EU).

SKIN PROTECTION

HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.

SPLASH CONTACT

MATERIAL: FLUORINATED RUBBER
MINIMUM LAYER THICKNESS: 0.7 MM
BREAK THROUGH TIME: 30 MIN
MATERIAL TESTED: VITOJECT (KCL 890, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.

BODY PROTECTION

IMPERVIOUS CLOTHING, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORY PROTECTION

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

CONTROL OF ENVIRONMENTAL EXPOSURE

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colorless to light yellow to light orange clear liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	-13 °C
POINT/FREEZING POINT	
INITIAL BOILING POINT	88 °C
AND BOILING RANGE	
FLASH POINT	-5 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR	
EXPLOSIVE LIMITS	
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.17
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION	NO DATA AVAILABLE
TEMPERATURE	
DECOMPOSITION	NO DATA AVAILABLE
TEMPERATURE	
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR.
CONDITIONS TO AVOID	HEAT, FLAMES AND SPARKS. EXTREMES OF TEMPERATURE AND DIRECT SUNLIGHT.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS

**HAZARDOUS
DECOMPOSITION
PRODUCTS**

HAZARDOUS DECOMPOSITION PRODUCTS FORMED
UNDER FIRE CONDITIONS. - CARBON OXIDES,
HYDROGEN FLUORIDE
OTHER DECOMPOSITION PRODUCTS - NO DATA
AVAILABLE
IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LC50 INHALATION - MOUSE - 2.0 H - 55,000.0 MG/M3 REMARKS: BRAIN AND COVERINGS: RECORDINGS FROM SPECIFIC AREAS OF CNS. INHALATION: NO DATA AVAILABLE DERMAL: NO DATA AVAILABLE NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	NO DATA AVAILABLE
SERIOUS EYE DAMAGE/EYE IRRITATION	NO DATA AVAILABLE
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA S LIST OF REGULATED CARCINOGENS.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE NO DATA AVAILABLE

ASPIRATION HAZARD NO DATA AVAILABLE

ADDITIONAL INFORMATION RTECS: CZ5658000

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY NO DATA AVAILABLE

PERSISTENCE AND DEGRADABILITY NO DATA AVAILABLE

BIOACCUMULATIVE POTENTIAL NO DATA AVAILABLE

MOBILITY IN SOIL NO DATA AVAILABLE

RESULTS OF PBT AND VPVB ASSESSMENT PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTS NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S. (1,4-Difluorobenzene)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	II
POISON INHALATION	NO
HAZARD:	

IMDG

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S. (1,4-Difluorobenzene)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	II
EMS-NO:	F-E, S-E

IATA

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S. (1,4-Difluorobenzene)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS	NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.
SARA 313 COMPONENTS	THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.
SARA 311/312 HAZARDS	FIRE HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
1,4-Difluorobenzene	540-36-3	

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
1,4-Difluorobenzene	540-36-3	

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.
H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

MSDS LEGEND

MW: MOLECULAR WEIGHT
MF: MOLECULAR FORMULA
VOC: VOLATILE ORGANIC COMPOUNDS
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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