# Chem-Impex International Inc.

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# SAFETY DATA SHEET

# SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 27362

NAME: Ethyl difluoroacetate

SYNONYMS: Ethyl 2,2-difluoroacetate

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 3), H226 SKIN CORROSION (CATEGORY 1B), H314 SERIOUS EYE DAMAGE (CATEGORY 1), H318 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)

H226 FLAMMABLE LIQUID AND VAPOUR.

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

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.

P264 WASH SKIN THOROUGHLY AFTER HANDLING.`

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE

PROTECTION/ FACE PROTECTION.

P301 + P330 + P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING. P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL

CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/

SHOWER.

P304 + P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST

IN A POSITION COMFORTABLE FOR BREATHING.

P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL

MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY

TO DO. CONTINUE RINSING.

P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/

PHYSICIAN.

P321 SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID

INSTRUCTIONS ON THIS LABEL).

P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.

P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR

ALCOHOL-RESISTANT FOAM FOR EXTINCTION.

P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL.

P405 STORE LOCKED UP.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE

DISPOSAL PLANT.

HAZARDS NOT NONE

**OTHERWISE** 

CLASSIFIED (HNOC) OR NOT COVERED BY GHS

# SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:  $C_4H_6F_2O_2$ 

MW: 124.09

CAS-NO. 454-31-9

PURITY:  $\geq 99.5\%$  (Assay)

### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Ethyl difluoroacetate		
	FLAM. LIQ. 3; SKIN CORR. 1B;	-
	EYE DAM. 1; H226, H314	

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 TAKE OFF CONTAMINATED CLOTHING AND SHOES

**CONTACT** IMMEDIATELY. WASH OFF WITH SOAP AND PLENTY OF

WATER. CONSULT A PHYSICIAN.

IN CASE OF EYE RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT

CONTACT LEAST 15 MINUTES AND CONSULT A

PHYSICIAN.CONTINUE RINSING EYES DURING TRANSPORT

TO HOSPITAL.

**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** FOR SMALL (INCIPIENT) FIRES, USE MEDIA SUCH AS "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON

DIOXIDE. FOR LARGE FIRES, APPLY WATER FROM AS FAR AS POSSIBLE. USE VERY LARGE QUANTITIES (FLOODING) OF WATER APPLIED AS A MIST OR SPRAY; SOLID STREAMS OF WATER MAY BE INEFFECTIVE. COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER.

SPECIAL HAZARDS ARISING FROM THE

SUBSTANCE OR MIXTURE

CARBON OXIDES, HYDROGEN FLUORIDE

**ADVICE FOR** WEAR SELF-CONTAINED BREATHING APPARATUS FOR

**FIREFIGHTERS** FIRE FIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL** USE PERSONAL PROTECTIVE EQUIPMENT. AVOID **PRECAUTIONS,** BREATHING VAPOURS, MIST OR GAS. ENSURE ADD

PROTECTIVE EQUIPMENT
AND EMERGENCY
PROCEDURES

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 PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO

**PRECAUTIONS** 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 WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13).

**SECTIONS** 

# **SECTION 7. HANDLING AND STORAGE**

PRECAUTIONS FOR SAFE

AVOID INHALATION OF VAPOUR OR MIST. KEEP AWAY FROM SOURCES OF IGNITION - NO

HANDLING

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.

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** 

TIGHTLY FITTING SAFETY GOGGLES. FACESHIELD (8-INCH MINIMUM). 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.

#### **BODY PROTECTION**

COMPLETE SUIT PROTECTING AGAINST CHEMICALS, 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.

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING

# RESPIRATORY PROTECTION

RESPIRATORS ARE APPROPRIATE USE A FULL-FACE RESPIRATOR WITH MULTIPURPOSE 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

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

(US) OR CEN (EU).

APPEARANCE Colorless clear liquid
ODOUR NO DATA AVAILABLE
ODOUR THRESHOLD NO DATA AVAILABLE
PH NO DATA AVAILABLE

**MELTING** 

POINT/FREEZING POINT INITIAL BOILING POINT AND BOILING RANGE

FLASH POINT

EVAPOURATION RATE NO DATA AVAILABLE FLAMMABILITY (SOLID, NO DATA AVAILABLE

GAS)

UPPER/LOWER NO DATA AVAILABLE

FLAMMABILITY OR EXPLOSIVE LIMITS

VAPOUR PRESSURE NO DATA AVAILABLE

VAPOUR DENSITY NO DATA AVAILABLE

RELATIVE DENSITY

WATER SOLUBILITY NO DATA AVAILABLE PARTITION COEFFICIENT: NO DATA AVAILABLE

N- OCTANOL/WATER

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** VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

HAZARDOUS REACTIONS

**CONDITIONS TO AVOID** HEAT, FLAMES AND SPARKS.

**INCOMPATIBLE** STRONG OXIDIZING AGENTS

MATERIALS

HAZARDOUS OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE

**DECOMPOSITION** IN THE EVENT OF FIRE: SEE SECTION 5

**PRODUCTS** 

## SECTION 11. TOXICOLOGICAL INFORMATION

# INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY NO DATA AVAILABLE

INHALATION: NO DATA AVAILABLE

DERMAL: NO DATA AVAILABLE

NO DATA AVAILABLE

**SKIN** NO DATA AVAILABLE

CORROSION/IRRITATION

**SERIOUS EYE** NO DATA AVAILABLE

DAMAGE/EYE IRRITATION

RESPIRATORY OR SKIN NO DATA AVAILABLE SENSITISATION

GERM CELL NO DATA AVAILABLE MUTAGENICITY

**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. 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.

LARYNGITIS, SHORTNESS OF BREATH, HEADACHE,

OSHA: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS

GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.

REPRODUCTIVE TOXICITY NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN** NO DATA AVAILABLE

TOXICITY - SINGLE

**EXPOSURE** 

NTP:

**SPECIFIC TARGET ORGAN** NO DATA AVAILABLE

TOXICITY - REPEATED

**EXPOSURE** 

ASPIRATION HAZARD NO DATA AVAILABLE

**ADDITIONAL** RTECS: NOT AVAILABLE **INFORMATION** 

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN., SPASM, INFLAMMATION AND EDEMA OF THE LARYNX, SPASM, INFLAMMATION AND EDEMA OF THE BRONCHI, PNEUMONITIS, PULMONARY EDEMA, BURNING SENSATION, COUGH, WHEEZING,

NAUSEA.

### **SECTION 12. ECOLOGICAL INFORMATION**

**TOXICITY** NO DATA AVAILABLE

**PERSISTENCE AND**NO DATA AVAILABLE

DEGRADABILITY

BIOACCUMULATIVE

POTENTIAL

NO DATA AVAILABLE

MOBILITY IN SOIL NO DATA AVAILABLE

**RESULTS OF PBT AND VPVB** PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL

**ASSESSMENT** 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 LIQUIDS, CORROSIVE, N.O.S.(Ethyl

difluoroacetate)

UN NUMBER: 2924
CLASS: 3 (8)
PACKING GROUP: III
MARINE POLLUTANT: NO
POISON INHALATION NO

HAZARD:

**IMDG** 

PROPER SHIPPING NAME: FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.(Ethyl

difluoroacetate)

UN NUMBER: 2924
CLASS: 3 (8)
PACKING GROUP: III
EMS-NO: F-E, S-C
MARINE POLLUTANT: NO

**IATA** 

PROPER SHIPPING NAME: FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.(Ethyl

difluoroacetate)

UN NUMBER: 2924 CLASS: 3 (8) PACKING GROUP: III

# **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 RIGHTNO COMPONENTS ARE SUBJECT TO THETO KNOW COMPONENTSMASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Ethyl difluoroacetate 454-31-9

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Ethyl difluoroacetate 454-31-9

CALIFORNIA PROP. 65

**COMPONENTS** KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER,

BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS

# **SECTION 16. OTHER INFORMATION**

EYE DAM. SERIOUS EYE DAMAGE. FLAM. LIQ. FLAMMABLE LIQUIDS.

H226 FLAMMABLE LIQUID AND VAPOUR.

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

H318 CAUSES SERIOUS EYE DAMAGE.

SKIN CORR. SKIN CORROSION.

### **HMIS RATING**

HEALTH HAZARD: 0 CHRONIC HEALTH HAZARD: FLAMMABILITY: 3 PHYSICAL HAZARD 0

### NFPA RATING

HEALTH HAZARD: 0
FIRE HAZARD: 3
REACTIVITY HAZARD: 0

### MSDS LEGEND

MW: MOLECULAR WEIGHT MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENENTAL INDUSTRIAL

**HYGINISTS** 

CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV: THRESHOLD LIMIT VALUE (ACGIH)

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