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## Material Safety Data Sheet

Transportation Emergency: 1-800-451-8346

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### SECTION 1. ----- CHEMICAL IDENTIFICATION-----

CATALOG #: 2316-7-02  
NAME: 2-FLUOROACRYLOYL CHLORIDE

### SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS #: 16522-55-7  
MF: C<sub>3</sub>H<sub>2</sub>CLFO = 108.50

### SECTION 3. ----- HAZARDS IDENTIFICATION -----

#### LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA) HIGHLY FLAMMABLE (EU).  
HIGHLY FLAMMABLE. REACTS VIOLENTLY WITH WATER.  
HIGHLY TOXIC (USA) VERY TOXIC (EU).  
VERY TOXIC BY INHALATION.

CORROSIVE  
CAUSES BURNS.  
LACHRYMATOR.

#### HMIS RATING

HEALTH: 4  
FLAMMABILITY: 3  
REACTIVITY: 2  
SPECIAL HAZARD(S): WATER REACTIVE

### SECTION 4. ----- FIRST-AID MEASURES-----

#### ORAL EXPOSURE

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS  
CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY. DO NOT INDUCE VOMITING.

#### INHALATION EXPOSURE

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE  
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

#### DERMAL EXPOSURE

IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR  
AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES.  
CALL A PHYSICIAN.

#### EYE EXPOSURE

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF  
WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY  
SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

**SECTION 5. ----- FIRE FIGHTING MEASURES -----**

**EXPLOSION HAZARDS**

VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK. CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

**CONDITIONS OF FLAMMABILITY**

WATER HYDROLYZES MATERIAL LIBERATING ACIDIC GAS WHICH IN CONTACT WITH METAL SURFACES CAN GENERATE FLAMMABLE AND/OR EXPLOSIVE HYDROGEN GAS.

**FLASH POINT**

NOT ESTABLISHED

**EXTINGUISHING MEDIA**

SUITABLE: CARBON DIOXIDE. DRY CHEMICAL POWDER.

UNSUITABLE: DO NOT USE WATER.

**FIREFIGHTING**

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SPECIFIC HAZARD(S): FLAMMABLE LIQUID. EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

**SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----**

**PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL**

EVACUATE AREA. SHUT OFF ALL SOURCES OF IGNITION.

**PROCEDURE(S) OF PERSONAL PRECAUTION(S)**

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS, AND HEAVY RUBBER GLOVES.

**METHODS FOR CLEANING UP**

COVER WITH DRY-LIME, SAND, OR SODA ASH. PLACE IN COVERED CONTAINERS USING NON-SPARKING TOOLS AND TRANSPORT OUTDOORS. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

**SECTION 7. ----- HANDLING AND STORAGE-----**

**HANDLING**

USER EXPOSURE: DO NOT BREATHE VAPOR. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

**STORAGE**

SUITABLE: KEEP TIGHTLY CLOSED. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. LIMIT STORAGE TIME.

INCOMPATIBLE MATERIALS: DO NOT ALLOW CONTACT WITH WATER  
STORE AT 2-8°C

**SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----**

**ENGINEERING CONTROLS**

SAFETY SHOWER AND EYE BATH. USE NONSPARKING TOOLS. USE ONLY IN A CHEMICAL FUME HOOD.

**PERSONAL PROTECTIVE EQUIPMENT**

RESPIRATORY: USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU). WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE 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.

HAND: COMPATIBLE CHEMICAL-RESISTANT GLOVES.

EYE: CHEMICAL SAFETY GOGGLES.

OTHER: FACESHIELD (8-INCH MINIMUM).

**GENERAL HYGIENE MEASURES**

WASH CONTAMINATED CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES. WASH THOROUGHLY AFTER HANDLING.

**SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----**

APPEARANCE

LIQUID

PHYSICAL PROPERTIES

BOILING POINT: 60 - 64 °C @ 750 mmHg

DENSITY: 1.298 g/cm<sup>3</sup> @ 20 °C

**SECTION 10. ----- STABILITY AND REACTIVITY -----**

STABILITY

CONDITIONS TO AVOID: DO NOT ALLOW WATER TO ENTER CONTAINER BECAUSE OF VIOLENT REACTION. LIGHT.

MATERIALS TO AVOID: ALCOHOLS, OXIDIZING AGENTS, STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN CHLORIDE GAS, PHOSGENE GAS, HYDROGEN FLUORIDE.

STABILIZERS PRESENT

STABILIZED WITH HYDROQUINONE

HAZARDOUS POLYMERIZATION

HAZARDOUS POLYMERIZATION: MAY OCCUR

HAZARDOUS POLYMERIZATION REACTIONS: HUMIDITY, CATALYSTS, SUNLIGHT, HEAT. LOSS OF INHIBITOR

**SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**

ROUTE OF EXPOSURE

SKIN CONTACT: CAUSES BURNS.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

EYE CONTACT: CAUSES BURNS. LACHRYMATOR.

INHALATION: MAY BE FATAL IF INHALED. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS, AND PULMONARY EDEMA. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA, AND VOMITING. MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN.

**SECTION 12. ----- ECOLOGICAL INFORMATION -----**

DATA NOT YET AVAILABLE.

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. OBSERVE ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

DOT

PROPER SHIPPING NAME: FLAMMABLE LIQUID, CORROSIVE, NOS\*

UN#: 2924

CLASS: 3 & 8

PACKING GROUP: PACKING GROUP II

HAZARD LABEL: FLAMMABLE LIQUID

HAZARD LABEL: CORROSIVE LIQUID

**SECTION 15. ----- REGULATORY INFORMATION -----**

**EU ADDITIONAL CLASSIFICATION**

SYMBOL OF DANGER: F-T+

INDICATION OF DANGER: HIGHLY FLAMMABLE. VERY TOXIC.

R: 11-14-26-34

RISK STATEMENTS: HIGHLY FLAMMABLE. REACTS VIOLENTLY WITH WATER.

VERY TOXIC BY INHALATION. CAUSES BURNS.

S: 7/9-16-26-36/37/39-28-45

SAFETY STATEMENTS: KEEP CONTAINER TIGHTLY CLOSED AND IN WELL-VENTILATED PLACE. KEEP AWAY FROM SOURCES OF IGNITION - NO

SMOKING. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH

PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE

PROTECTIVE CLOTHING, GLOVES, AND EYE/FACE PROTECTION. AFTER

CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. IN

CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE

IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

**US CLASSIFICATION AND LABEL TEXT**

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US STATEMENTS: LACHRYMATOR.

**SECTION 16. ----- OTHER INFORMATION -----**

**DISCLAIMER**

FOR R&D USE ONLY. NOT FOR DRUG, HOUSEHOLD OR OTHER USES.

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO

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