

# *Chem-Impex International Inc.*

---

Tel: (630) 766-2112

E-mail: [sales@chemimpex.com](mailto:sales@chemimpex.com)

Shipping and Correspondence:

935 Dillon Drive

Wood Dale, IL 60191 USA

Fax: (630) 766-2218

Web site: [www.chemimpex.com](http://www.chemimpex.com)

Manufacturing site:

825 Dillon Drive

Wood Dale, IL 60191 USA

## SAFETY DATA SHEET

---

### SECTION 1. CHEMICAL IDENTIFICATION

---

CATALOG #: 45635

NAME: (5,6-Difluoro-3-oxo-2,3-dihydro-1*H*-inden-1-ylidene)malononitrile

SYNONYMS: 2-(5,6-Difluoro-3-oxoinden-1-ylidene)propanedinitrile

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)

ACUTE TOXICITY, ORAL (CATEGORY 3), H301

ACUTE TOXICITY, DERMAL (CATEGORY 3), H311

SKIN CORROSION/IRRITATION (CATEGORY 2), H315

EYE DAMAGE/IRRITATION (CATEGORY 2A), H319

ACUTE TOXICITY, INHALATION (CATEGORY 3), H331

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)**

H301 + H311 + H331 TOXIC IF SWALLOWED, IN CONTACT WITH SKIN OR IF INHALED.  
H315 CAUSES SKIN IRRITATION.  
H319 CAUSES SERIOUS EYE IRRITATION.

**PRECAUTIONARY STATEMENT(S)**

P261 AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.  
P264 WASH SKIN THOROUGHLY AFTER HANDLING.  
P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.  
P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.  
P280 WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION.  
P301 + P310 + P330 IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER/DOCTOR. RINSE MOUTH.  
P302 + P352 + P312 IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER. CALL A POISON CENTER OR DOCTOR/ PHYSICIAN IF YOU FEEL UNWELL.  
P304 + P340 + P311 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. CALL A POISON CENTER/DOCTOR.  
P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.  
P337 + P313 IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ ATTENTION.  
P361 + P364 TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE.  
P405 STORE LOCKED UP.  
P403 + P233 STORE IN A WELL VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.  
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<sub>12</sub>H<sub>4</sub>F<sub>2</sub>N<sub>2</sub>O  
 MW: 230.17  
 CAS-NO. 2083617-82-5  
 PURITY: ≥ 98% (HPLC)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
<b>(5,6-Difluoro-3-oxo-2,3-dihydro-1<i>H</i>-inden-1-ylidene)malononitrile</b>		
	-	-

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**

<b>GENERAL ADVICE</b>	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
<b>IF INHALED</b>	REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL.
<b>IN CASE OF SKIN CONTACT</b>	REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ATTENTION.
<b>IN CASE OF EYE CONTACT</b>	RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.
<b>IF SWALLOWED</b>	GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL. RINSE MOUTH.
<b>MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED</b>	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.
<b>INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED</b>	NO DATA AVAILABLE

---

## **SECTION 5. FIRE AND EXPLOSION DATA**

---

### **EXTINGUISHING MEDIA**

<b>SUITABLE EXTINGUISHING MEDIA</b>	DRY CHEMICAL, FOAM, WATER SPRAY, CARBON DIOXIDE.
<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	NO DATA AVAILABLE
<b>ADVICE FOR FIREFIGHTERS</b>	WEAR SELF-CONTAINED BREATHING APPARATUS IF POSSIBLE.
<b>FURTHER INFORMATION</b>	CLOSED CONTAINERS MAY EXPLODE FROM HEAT OF A FIRE.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

---

<b>PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES</b>	USE PERSONAL PROTECTIVE EQUIPMENT. KEEP PEOPLE AWAY FROM AND UPWIND OF SPILL/LEAK. ENSURE ADEQUATE VENTILATION. ENTRY TO NON-INVOLVED PERSONNEL SHOULD BE CONTROLLED AROUND THE LEAKAGE AREA BY ROPING OFF, ETC.
<b>ENVIRONMENTAL PRECAUTIONS</b>	PREVENT PRODUCT FROM ENTERING DRAINS.
<b>METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP</b>	CORRECT SPILLED MATERIAL INTO AN AIRTIGHT CONTAINER. ADHERED OR COLLECTED MATERIAL SHOULD BE PROMPTLY DISPOSED OF, IN ACCORDANCE WITH APPROPRIATE LAWS AND REGULATIONS.
<b>REFERENCE TO OTHER SECTIONS</b>	FOR DISPOSAL SEE SECTION 13.

---

## **SECTION 7. HANDLING AND STORAGE**

---

<b>PRECAUTIONS FOR SAFE HANDLING</b>	AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
<b>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</b>	KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL AND DARK PLACE. STORE UNDER INERT GAS.

STORE AWAY FROM INCOMPATIBLE MATERIALS SUCH AS OXIDIZING AGENTS.  
LIGHT-SENSITIVE AIR-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**

FOLLOW SAFE INDUSTRIAL ENGINEERING/LABORATORY PRACTICES WHEN HANDLING ANY CHEMICAL. INSTALL A CLOSED SYSTEM OR LOCAL EXHAUST. ALSO INSTALL SAFETY SHOWER AND EYE BATH.

### **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.

#### **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**

DUST RESPIRATOR. FOLLOW LOCAL AND NATIONAL REGULATIONS.

#### **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	White to gray to brown powder to crystalline
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	148 - 152 °C
POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	
FLASH POINT	
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
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**

---

<b>REACTIVITY</b>	NO DATA AVAILABLE
<b>CHEMICAL STABILITY</b>	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	NO SPECIAL REACTIVITY HAS BEEN REPORTED.
<b>CONDITIONS TO AVOID</b>	NO DATA AVAILABLE

**INCOMPATIBLE  
MATERIALS**

OXIDIZING AGENTS

**HAZARDOUS  
DECOMPOSITION  
PRODUCTS**

CARBON MONOXIDE, CARBON DIOXIDE ETC

---

## **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  
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.

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

<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE
<b>ADDITIONAL INFORMATION</b>	RTECS: NOT AVAILABLE  TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

---

**SECTION 12. ECOLOGICAL INFORMATION**

---

<b>TOXICITY</b>	NO DATA AVAILABLE
<b>PERSISTENCE AND DEGRADABILITY</b>	NO DATA AVAILABLE
<b>BIOACCUMULATIVE POTENTIAL</b>	NO DATA AVAILABLE
<b>MOBILITY IN SOIL</b>	NO DATA AVAILABLE
<b>RESULTS OF PBT AND VPVB ASSESSMENT</b>	NO DATA AVAILABLE
<b>OTHER ADVERSE EFFECTS</b>	NO DATA AVAILABLE

---

**SECTION 13. DISPOSAL CONSIDERATIONS**

---

**WASTE TREATMENT METHODS**

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



---

**SECTION 14. TRANSPORT INFORMATION**

---

**DOT (US)**

PROPER SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S ( (5,6-Difluoro-3-oxo-2,3-dihydro-1*H*-inden-1-ylidene)malononitrile )  
UN NUMBER: 2811  
CLASS: 6.1  
PACKING GROUP: III

**IMDG**

PROPER SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S ( (5,6-Difluoro-3-oxo-2,3-dihydro-1*H*-inden-1-ylidene)malononitrile )  
UN NUMBER: 2811  
CLASS: 6.1  
PACKING GROUP: III  
EMS NUMBER: F-A, S-A

**IATA**

PROPER SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S ( (5,6-Difluoro-3-oxo-2,3-dihydro-1*H*-inden-1-ylidene)malononitrile )  
UN NUMBER: 2811  
CLASS: 6.1  
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.

**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
(5,6-Difluoro-3-oxo-2,3-dihydro-1 <i>H</i> -inden-1-ylidene)malononitrile	2083617-82-5	

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
(5,6-Difluoro-3-oxo-2,3-dihydro-1 <i>H</i> -inden-1-ylidene)malononitrile	2083617-82-5	

---

**SECTION 16. OTHER INFORMATION**

---

**FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.**

H301 + H311 + H331 TOXIC IF SWALLOWED, IN CONTACT WITH SKIN OR IF  
INHALED.  
H315 CAUSES SKIN IRRITATION.  
H319 CAUSES SERIOUS EYE IRRITATION.

**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:**

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. IN NO EVENT SHALL CII BE LIABLE FOR ANY CLAIMS, LOSSES, OR DAMAGES OF ANY THIRD PARTY OR FOR LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF CII HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

VERSION: 3.2.

REVISION DATE: 11/3/2021