

ALFAAB22487

## 2-Chloro-2',4'-difluoroacetophenone

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: 2-氯-2',4'-二氟苯乙酮  
Product Description: 2-Chloro-2',4'-difluoroacetophenone

Cat No. : B22487  
CAS No 51336-94-8  
Molecular Formula C8 H5 Cl F2 O

Supplier Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
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Recommended Use Laboratory chemicals.  
Uses advised against No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Solid Crystalline

**Appearance**  
No information available

**Odor**  
No information available

**Emergency Overview**  
Causes severe skin burns and eye damage. Lachrymator (substance which increases the flow of tears).

#### Classification of the substance or mixture

|                                   |              |
|-----------------------------------|--------------|
| Skin Corrosion/Irritation         | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1   |

#### Label Elements



Signal Word **Danger**

Hazard Statements  
H314 - Causes severe skin burns and eye damage

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## 2-Chloro-2',4'-difluoroacetophenone

### Precautionary Statements

#### Prevention

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

#### Response

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep 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

P362 + P364 - Take off contaminated clothing and wash it before reuse

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Physical and Chemical Hazards

None identified.

### Health Hazards

Corrosive. Causes skin and eye burns. Lachrymator (substance which increases the flow of tears).

### Environmental hazards

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### Other Hazards

Lachrymator (substance which increases the flow of tears)

This product does not contain any known or suspected endocrine disruptors.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                           | CAS No     | Weight % |
|-------------------------------------|------------|----------|
| 2-Chloro-2',4'-difluoroacetophenone | 51336-94-8 | <=100    |

## SECTION 4. FIRST AID MEASURES

### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Keep eye wide open while rinsing.

### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

### Ingestion

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

### Most important symptoms and effects

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate

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tissue and danger of perforation

**Self-Protection of the First Aider**

No special precautions required.

**Notes to Physician**

Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

The product causes burns of eyes, skin and mucous membranes.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

**Environmental Precautions**

Should not be released into the environment. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Refer to protective measures listed in Sections 8 and 13.

### SECTION 7. HANDLING AND STORAGE

**Handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage**

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Specific Use(s)**

Use in laboratories

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters****Monitoring methods**

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## 2-Chloro-2',4'-difluoroacetophenone

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

### Exposure Controls

### Engineering Measures

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location. .

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time                 | Glove thickness | EU standard | Glove comments        |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Nitrile rubber | See manufacturers recommendations | -               | EN 374      | (minimum requirement) |
| Neoprene       |                                   |                 |             |                       |
| Natural rubber |                                   |                 |             |                       |
| PVC            |                                   |                 |             |                       |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particle filter

**Small scale/Laboratory use** Maintain adequate ventilation

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

**Physical State** Solid Crystalline

**Odor** No information available

**Odor Threshold** No data available

**pH** No information available

**Melting Point/Range** 44 - 48 °C / 111.2 - 118.4 °F

**Softening Point** No data available

**Boiling Point/Range** No information available

**Flash Point** No information available

**Method -** No information available

**Evaporation Rate** Not applicable

Solid

**Flammability (solid,gas)** No information available

**Explosion Limits** No data available

**Vapor Pressure** No data available

**Vapor Density** Not applicable Solid

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## 2-Chloro-2',4'-difluoroacetophenone

|   |                          |       |
|---|--------------------------|-------|
| Specific Gravity / Density              | No data available        |       |
| Bulk Density                            | No data available        |       |
| Water Solubility                        | No information available |       |
| Solubility in other solvents            | No information available |       |
| Partition Coefficient (n-octanol/water) |                          |       |
| Autoignition Temperature                | No data available        |       |
| Decomposition Temperature               | No data available        |       |
| Viscosity                               | Not applicable           | Solid |
| Explosive Properties                    | No information available |       |
| Oxidizing Properties                    | No information available |       |
| Molecular Formula                       | C8 H5 Cl F2 O            |       |
| Molecular Weight                        | 190.58                   |       |

### SECTION 10. STABILITY AND REACTIVITY

|                          |                                 |
|--------------------------|---------------------------------|
| Stability                | Stable under normal conditions. |
| Hazardous Reactions      | None under normal processing.   |
| Hazardous Polymerization | No information available.       |
| Conditions to Avoid      | None known.                     |
| Materials to avoid       | No information available.       |

Hazardous Decomposition Products None under normal use conditions.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Product Information

|  |   |
|--|---|
| (a) acute toxicity;                    |   |
| (b) skin corrosion/irritation;         | Category 1 B  |
| (c) serious eye damage/irritation;     | Category 1  |
| (d) respiratory or skin sensitization; |   |
| Respiratory                            | No data available   |
| Skin                                   | No data available   |
| (e) germ cell mutagenicity;            | No data available   |
| (f) carcinogenicity;                   | No data available   |
|  | There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity;             | No data available   |
| (h) STOT-single exposure;              | No data available   |
| (i) STOT-repeated exposure;            | No data available   |

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## 2-Chloro-2',4'-difluoroacetophenone

|  |  |
|--|--|
| Target Organs                              | No information available.  |
| (j) aspiration hazard;                     | Not applicable<br>Solid  |
| Symptoms / effects, both acute and delayed | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |

### SECTION 12. ECOLOGICAL INFORMATION

|  |   |
|--|---|
| Ecotoxicity effects  | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.   |
| Persistence and Degradability  | No information available  |
| Bioaccumulative Potential  | No information available  |
| Mobility in soil   | No information available  |
| Endocrine Disruptor Information<br>Persistent Organic Pollutant<br>Ozone Depletion Potential | This product does not contain any known or suspected endocrine disruptors<br>This product does not contain any known or suspected substance<br>This product does not contain any known or suspected substance |

### SECTION 13. DISPOSAL CONSIDERATIONS

|                                     |   |
|-------------------------------------|---|
| Waste from Residues/Unused Products | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.  |
| Contaminated Packaging              | Dispose of this container to hazardous or special waste collection point.   |
| Other Information                   | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms. |

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

|                         |  |
|-------------------------|--|
| UN-No                   | UN3261                                   |
| Proper Shipping Name    | Corrosive solid, acidic, organic, n.o.s. |
| Technical Shipping Name | (2-Chloro-2',4'-difluoroacetophenone)    |
| Hazard Class            | 8  |
| Packing Group           | II                                       |

#### IMDG/IMO

|                         |  |
|-------------------------|--|
| UN-No                   | UN3261                                   |
| Proper Shipping Name    | Corrosive solid, acidic, organic, n.o.s. |
| Technical Shipping Name | (2-Chloro-2',4'-difluoroacetophenone)    |
| Hazard Class            | 8  |
| Packing Group           | II                                       |

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### IATA

**UN-No** UN3261  
**Proper Shipping Name** Corrosive solid, acidic, organic, n.o.s.  
**Technical Shipping Name** (2-Chloro-2',4'-difluoroacetophenone)  
**Hazard Class** 8  
**Packing Group** II

**Special Precautions for User** No special precautions required

### SECTION 15. REGULATORY INFORMATION

#### International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component                           | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|-------------------------------------|---|---|------|-------|--------|------|-----|-------|------|------|------|------|
| 2-Chloro-2',4'-difluoroacetophenone | -   | -                                       | X    | -     | -      | -    | -   | -     | -    | -    | -    | -    |

#### National Regulations

### SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Revision Date** 03-May-2024  
**Revision Summary** New emergency telephone response service provider.

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

#### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

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## 2-Chloro-2',4'-difluoroacetophenone

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**ATE** - Acute Toxicity Estimate  
**VOC** - (Volatile Organic Compound)

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**