

SAFETY DATA SHEET

Version 6.5
Revision Date 03/04/2024
Print Date 07/13/2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 2-Chloroacetophenone

Product Number : C19686

Brand : Aldrich

CAS-No. : 532-27-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 2), H300

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Respiratory sensitization (Category 1), H334

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Aldrich - C19686

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operates as MilliporeSigma in the US and Canada

Millipore
Sigma

Pictogram



Signal Word

Danger

Hazard Statements

| | |
|---------------------------|--|
| H300 | Fatal if swallowed. |
| H311 + H331 | Toxic in contact with skin or if inhaled. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| Precautionary Statements | |
| P261 | Avoid breathing dust. |
| 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/ protective clothing/ eye protection/ face protection. |
| P285 | In case of inadequate ventilation wear respiratory protection. |
| P301 + P310 + P330 | IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. |
| P302 + P352 + P312 | IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor 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 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P342 + P311 | If experiencing respiratory symptoms: Call a POISON CENTER/ doctor. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

| | | |
|------------------|---|---|
| Synonyms | : | ω-Chloroacetophenone Phenacyl chloride |
| Formula | : | C ₈ H ₇ ClO |
| Molecular weight | : | 154.59 g/mol |
| CAS-No. | : | 532-27-4 |

Aldrich - C19686

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Sigma**

| Component | Classification | Concentration |
|-----------------------------|---|---------------|
| 2-Chloroacetophenone | Acute Tox. 2; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Resp. Sens. 1; STOT SE 3; H300, H331, H311, H315, H318, H334, H335 | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Hydrogen chloride gas

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store under inert gas.

Storage class

Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 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

8.1 Control parameters

Ingredients with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis | |
|-----------------------|----------|--|-----------------------------------|---|--|
| 2-Chloroacetopheno ne | 532-27-4 | TWA | 0.05 ppm | USA. ACGIH Threshold Limit Values (TLV) | |
| | Remarks | Not classifiable as a human carcinogen | | | |
| | | TWA | 0.05 ppm 0.3 mg/m ³ | USA. NIOSH Recommended Exposure Limits | |
| | | TWA | 0.05 ppm 0.3 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants | |
| | | PEL | 0.05 ppm 0.3 mg/m ³ | California permissible exposure limits for chemical contaminants (Title 8, Article 107) | |

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with impervious gloves.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter type P3
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|--|
| a) Appearance | Form: crystalline Color: beige |
| b) Odor | No data available |
| c) Odor Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: 54 - 56 °C (129 - 133 °F) |
| f) Initial boiling point and boiling range | 244 - 245 °C 471 - 473 °F |
| g) Flash point | (-)No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |

| | | |
|----|---|-----------------------------|
| k) | Vapor pressure | 0.09 hPa at 50 °C (122 °F) |
| l) | Vapor density | No data available |
| m) | Density | 1.324 g/mL at 25 °C (77 °F) |
| | Relative density | No data available |
| n) | Water solubility | No data available |
| o) | Partition coefficient: n-octanol/water | log Pow: 1.651 |
| p) | Autoignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | none |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Bases, Amines, Alcohols

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 50 mg/kg

LC50 Inhalation - Human - 20 h - 159 mg/m³

LD50 Dermal - 300 mg/kg

LD50 Intravenous - Rabbit - 30 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration:Respiratory stimulation.

Kidney, Ureter, Bladder:Other changes.

LD50 Intraperitoneal - Rat - 36 mg/kg

Remarks: Behavioral:Coma.

Lungs, Thorax, or Respiration:Other changes.

Skin and Appendages: Other: Hair.

LD50 Intraperitoneal - Guinea pig - 17 mg/kg

Remarks: Behavioral:Coma.

Lungs, Thorax, or Respiration:Other changes.

Skin and Appendages: Other: Hair.

LD50 Intraperitoneal - Mouse - 60 mg/kg

LD50 Intravenous - Rat - 41 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration:Respiratory stimulation.

Kidney, Ureter, Bladder:Other changes.

LD50 Intravenous - Mouse - 81 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration:Respiratory stimulation.

Kidney, Ureter, Bladder:Other changes.

Skin corrosion/irritation

Skin - Rat

Result: Open irritation test - 6 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe eye irritation

Remarks: Severe eye irritation

Respiratory or skin sensitization

May cause sensitization by inhalation and skin contact.

Germ cell mutagenicity

Test Type: Rat

Test system: Liver

Remarks: DNA damage

Test Type: Hamster

Test system: ovary

Remarks: Cytogenetic analysis

Carcinogenicity

IARC: No ingredient 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 ingredient 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

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: AM6300000

Cough, Shortness of breath, Headache, Nausea, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Lepomis cyanellus - 1.05 mg/l - 48 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT (US)

UN number: 1697 Class: 6.1 Packing group: II
Proper shipping name: Chloroacetophenone, solid
Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

IMDG

UN number: 1697 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: CHLOROACETOPHENONE, SOLID

IATA

UN number: 1697 Class: 6.1 Packing group: II
Proper shipping name: Chloroacetophenone, solid
IATA Passenger: Not permitted for transport

SECTION 15: Regulatory information

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

| | CAS-No. | Revision Date |
|----------------------|----------|---------------|
| 2-Chloroacetophenone | 532-27-4 | 2007-07-01 |

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

| | CAS-No. | Revision Date |
|----------------------|----------|---------------|
| 2-Chloroacetophenone | 532-27-4 | 2007-07-01 |

Pennsylvania Right To Know Components

| | CAS-No. | Revision Date |
|----------------------|----------|---------------|
| 2-Chloroacetophenone | 532-27-4 | 2007-07-01 |

SECTION 16: Other information

Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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