# SAFETY DATA SHEET

Updated on 26/09/2024

## 1. Material Identification

**Product Name** : 2-Chloroacetophenone
**Catalog Number** : io-1958
**CAS Number** : 532-27-4
**Identified uses** : Laboratory chemicals, manufacture of chemical compounds
**Company** : Ionz

**>> R&D Use only**

## 2. Hazards Identification

### GHS Classification:

Flammable liquid ( category 2 )
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

**Pictogram(s)**

**GHS Hazard Statements**

>> H300 (100%): Fatal if swallowed [Danger Acute toxicity, oral]

>> H311 (74.1%): Toxic in contact with skin [Danger Acute toxicity, dermal]

>> H315 (94.4%): Causes skin irritation [Warning Skin corrosion/irritation]

>> H317 (18.5%): May cause an allergic skin reaction [Warning Sensitization, Skin]

>> H318 (92.6%): Causes serious eye damage [Danger Serious eye damage/eye irritation]

>> H330 (13%): Fatal if inhaled [Danger Acute toxicity, inhalation]

>> H331 (75.9%): Toxic if inhaled [Danger Acute toxicity, inhalation]

>> H334 (85.2%): May cause allergy or asthma symptoms or breathing difficulties if inhaled [Danger Sensitization, respiratory]

>> H335 (100%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]

**Precautionary Statement Codes**

>> P233, P260, P261, P262, P264, P264+P265, P270, P271, P272, P280, P284, P301+P316, P302+P352, P304+P340, P305+P354+P338, P316, P317, P319, P320, P321, P330, P332+P317, P333+P317, P342+P316, P361+P364, P362+P364, P403, P403+P233, P405, and P501

**NFPA 704 Diamond**


**NFPA Health Rating**

>> 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

**NFPA Fire Rating**

>> 1 - Materials that must be preheated before ignition can occur. Materials require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur.

**NFPA Instability Rating**

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

### Health Hazards:

>> For information on chemical warfare tear gas agents see the ERG Criminal or Terrorist Use of CBR Agents. (ERG, 2024)

>> Inhalation causes tearing, burning of the eyes and difficulty in breathing; high concentrations may lead to development of acute pulmonary edema after latencies of 8 hrs. to several days; possible systemic manifestations include agitation, coma, contraction of pupils of eyes, loss of reflexes. External contact causes irritation of skin and intense irritation of eyes. Ingestion causes agitation, coma, contraction of pupils of eye, loss of reflexes. (USCG, 1999)

**ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> TOXIC and/or CORROSIVE; inhalation, ingestion or skin contact with material may cause severe injury or death.

>> Methyl bromoacetate (UN2643) is an eye irritant/lachrymator (causes flow of tears).

>> Contact with molten substance may cause severe burns to skin and eyes.

>> Avoid any skin contact.

>> Fire may produce irritating, corrosive and/or toxic gases.

>> Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.

>> For information on chemical warfare tear gas agents see the ERG Criminal or Terrorist Use of CBR Agents. (ERG, 2024)

>> Special Hazards of Combustion Products: Irritating hydrogen chloride may form.

>> Behavior in Fire: Unburned material may become volatile and cause severe eye irritation. (USCG, 1999)

**ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> Combustible material: may burn but does not ignite readily.

>> When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.

>> Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.

>> Corrosives in contact with metals may evolve flammable hydrogen gas.

>> Containers may explode when heated.

>> Runoff may pollute waterways.

>> Substance may be transported in a molten form.

>> Combustible. Gives off irritating or toxic fumes (or gases) in a fire.

## 3. Composition/Information On Ingredients

**Chemical name** : 2-Chloroacetophenone
**CAS Number** : 532-27-4
**Molecular Formula** : C8H7ClO
**Molecular Weight** : 154.5900 g/mol

## 4. First Aid Measures

### First Aid:

>> For information on chemical warfare tear gas agents see the ERG Criminal or Terrorist Use of CBR Agents. (ERG, 2024)

>> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

>> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

>> INGESTION: DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Transport the victim IMMEDIATELY to a hospital. (NTP, 1992)

**ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> General First Aid:

>> Call 911 or emergency medical service.

>> Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and avoid contamination.

>> Move victim to fresh air if it can be done safely.

>> Administer oxygen if breathing is difficult.

>> If victim is not breathing:

>> DO NOT perform mouth-to-mouth resuscitation; the victim may have ingestedor inhaled the substance.

>> If equipped and pulse detected, wash face and mouth, then give artificial respiration using a proper respiratory medical device (bag-valve mask, pocket mask equipped with a one-way valve or other device).

>> If no pulse detected or no respiratory medical device available, provide continuouscompressions. Conduct a pulse check every two minutes or monitor for any signs of spontaneous respirations.

>> Remove and isolate contaminated clothing and shoes.

>> For minor skin contact, avoid spreading material on unaffected skin.

>> In case of contact with substance, remove immediately by flushing skin or eyes with running water for at least 20 minutes.

>> For severe burns, immediate medical attention is required.

>> Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed.

>> Keep victim calm and warm.

>> Keep victim under observation.

>> For further assistance, contact your local Poison Control Center.

>> Note: Basic Life Support (BLS) and Advanced Life Support (ALS) should be done by trained professionals.

>> Specific First Aid:

>> For corrosives, in case of contact, immediately flush skin or eyes with running water for at least 30 minutes. Additional flushing may be required.

>> Removal of solidified molten material from skin requires medical assistance.

>> In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the "ERAP" section.

**First Aid Measures**

**Inhalation First Aid**

>> Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

**Skin First Aid**

>> Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

**Eye First Aid**

>> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

**Ingestion First Aid**

>> Rinse mouth. Give one or two glasses of water to drink. Give a slurry of activated charcoal in water to drink. Refer for medical attention . Rest.

## 5. Fire Fighting Measures

>> For information on chemical warfare tear gas agents see the ERG Criminal or Terrorist Use of CBR Agents. (ERG, 2024)

>> Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]:

>> SMALL FIRE: Dry chemical, CO2 or water spray.

>> LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal.

>> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. (ERG, 2024)

>> Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

>> Chloroacetophenone (CN) is combustible.

>> The agent may burn but does not ignite readily.

>> Fire may produce irritating, corrosive, and/or toxic gases.

>> The agent may be transported in a molten form.

>> For small fires, use dry chemical, carbon dioxide, or water spray.

>> For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Move containers from the fire area if it is possible to do so without risk to personnel. Dike fire control water for later disposal; do not scatter the material.

>> For fire involving tanks or car/trailer loads, fight the fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after the fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tanks. Always stay away from tanks engulfed in fire.

>> Run-off from fire control or dilution water may be corrosive and/or toxic, and it may cause pollution.

>> If the situation allows, control and properly dispose of run-off (effluent).

## 6. Accidental Release Measures

### Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> For initial isolation and protective action distances for chemical warfare tear gas agents see the Chemical Warfare Agents table in the ERG Criminal or Terrorist Use of CBR Agents. (ERG, 2024)

>> Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

**Evacuation: ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> Immediate precautionary measure

>> Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> Spill

>> For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> Fire

>> If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

### Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Personal protection: self-contained breathing apparatus. Sweep spilled substance into covered sealable, plastic containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

**Accidental Release Measures**

**Public Safety: ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.

>> Keep unauthorized personnel away.

>> Stay upwind, uphill and/or upstream.

>> Ventilate closed spaces before entering, but only if properly trained and equipped.

**Spill or Leak: ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.

>> Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

>> Stop leak if you can do it without risk.

>> Prevent entry into waterways, sewers, basements or confined areas.

>> Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

>> DO NOT GET WATER INSIDE CONTAINERS.

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>> DO NOT GET WATER INSIDE CONTAINERS.

## 7. Handling And Storage

### Safe Storage:

>> Separated from food and feedstuffs. Keep in a well-ventilated room.

### Storage Conditions:

>> Separated from food and feedstuffs. Keep in a well-ventilated room.

## 8. Exposure Control/ Personal Protection

**REL-TWA (Time Weighted Average)**

>> 0.3 mg/m³ (0.05 ppm)

>> TWA 0.3 mg/m3 (0.05 ppm)

>> 0.05 [ppm]

**PEL-TWA (8-Hour Time Weighted Average)**

>> 0.05 ppm (0.3 mg/m³)

>> 0.05 [ppm]

>> 0.05 ppm as TWA; A4 (not classifiable as a human carcinogen)

**TLV-TWA (Time Weighted Average)**

>> 0.05 ppm [1990]

**Emergency Response: ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> Small Fire

>> Dry chemical, CO2 or water spray.

>> Large Fire

>> Dry chemical, CO2, alcohol-resistant foam or water spray.

>> If it can be done safely, move undamaged containers away from the area around the fire.

>> Dike runoff from fire control for later disposal.

>> Fire Involving Tanks, Rail Tank Cars or Highway Tanks

>> Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.

>> Do not get water inside containers.

>> Cool containers with flooding quantities of water until well after fire is out.

>> Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

>> ALWAYS stay away from tanks in direct contact with flames.

### Inhalation Risk:

>> A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 °C.

### Effects of Short Term Exposure:

>> Lachrymation. The substance is severely irritating to the eyes. The substance is irritating to the skin and respiratory tract. Inhalation of the vapour or aerosol may cause lung oedema. The effects may be delayed. Medical observation is indicated.

>> There is inadequate information to assess the carcinogenic potential of chloroacetophenone (CN). Information is unavailable about the developmental toxicity, or reproductive toxicity risk from chronic or repeated exposure to chloroacetophenone (CN). Chronic or repeated exposure to chloroacetophenone (CN) may lead to eye problems including scarring, glaucoma, and cataracts. It may also cause breathing problems such as asthma. Prolonged contact with skin may cause dermatitis or skin sensitization.

### Effects of Long Term Exposure:

>> Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization.

**Fire Prevention**

>> NO open flames.

**Exposure Prevention**

>> STRICT HYGIENE!

**Inhalation Prevention**

>> Use local exhaust or breathing protection.

**Skin Prevention**

>> Protective gloves. Protective clothing.

**Eye Prevention**

>> Wear safety spectacles or eye protection in combination with breathing protection.

**Ingestion Prevention**

>> Do not eat, drink, or smoke during work. Wash hands before eating.

**Exposure Control and Personal Protection**

**Protective Clothing: ERG 2024, Guide 153 (Chloroacetophenone, liquid; Chloroacetophenone, solid)**

>> Wear positive pressure self-contained breathing apparatus (SCBA).

>> Wear chemical protective clothing that is specifically recommended by the manufacturer when there is NO RISK OF FIRE.

>> Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

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>> Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

## 9. Physical And Chemical Properties

**Molecular Weight:**

>> 154.59

**Exact Mass:**

>> 154.0185425

**Physical Description:**

>> 2-chloroacetophenone appears as a riot control agent and chemical warfare tear gas agent. A white crystalline solid. Denser than water and insoluble in water. Hence sinks in water. A lachrymator: vapors are very irritating to the eyes. Has a floral odor.

>> COLOURLESS-TO-GREY CRYSTALS.

**Color/Form:**

>> Crystals from dilute alcohol, carbon tetrachloride, or light petroleum

**Odor:**

>> IN VERY LOW CONCN IN AIR IT HAS AN ODOR RESEMBLING APPLE BLOSSOMS

**Boiling Point:**

>> 441 to 442 °F at 760 mmHg (NTP, 1992)

>> 244-245 °C

**Melting Point:**

>> 133.7 °F (NTP, 1992)

>> 54-59 °C

**Flash Point:**

>> 244 °F (NTP, 1992)

>> 118 °C c.c.

**Solubility:**

>> less than 1 mg/mL at 66 °F (NTP, 1992)

>> Solubility in water, g/100ml at 25 °C: 1.64

**Density:**

>> 1.32 at 59 °F (USCG, 1999) - Denser than water; will sink

>> 1.3 g/cm³

**Vapor Density:**

>> 5.2 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 5.3

**Vapor Pressure:**

>> 0.0054 mmHg at 68 °F (NTP, 1992)

>> Vapor pressure, Pa at 20 °C: 0.7

**LogP:**

>> 2.08

**Decomposition:**

>> When heated to decomposition it emits toxic fumes of /hydrogen chloride/.

**Ionization Potential:**

>> 9.44 eV

**Odor Threshold:**

>> Odor Threshold Low: 0.01 [mmHg]

>> Odor threshold from NJ "Hazardous Substance Fact Sheet"

## 10. Stability And Reactivity

>> Insoluble in water. Reacts slowly with water to form hydrogen chloride.

## 11. Toxicological Information

**Evidence for Carcinogenicity:**

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> A4: Not classifiable as a human carcinogen.

**Carcinogen Classification:**

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

>> No indication of carcinogenicity to humans (not listed by IARC).

**Exposure Routes:**

>> The substance can be absorbed into the body by inhalation and by ingestion.

>> inhalation, ingestion, skin and/or eye contact

**Inhalation Exposure**

>> Burning sensation. Cough. Sore throat. Nausea. Shortness of breath.

**Skin Exposure**

>> Redness. Pain.

**Eye Exposure**

>> Redness. Pain. Blurred vision. Partial loss of vision.

**Ingestion Exposure**

>> Burning sensation.

>> irritation eyes, skin, respiratory system; pulmonary edema

**Target Organs:**

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> Respiratory

>> Eyes, skin, respiratory system

**Adverse Effects:**

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Lacrimator (Lachrymator) - A substance that irritates the eyes and induces the flow of tears.

>> Skin Sensitizer - An agent that can induce an allergic reaction in the skin.

>> Toxic Pneumonitis - Inflammation of the lungs induced by inhalation of metal fumes or toxic gases and vapors.

>> ACGIH Carcinogen - Not Classifiable.

**Toxicity Data:**

>> LCLo (rat) = 417 mg/m3/15 min

**Antidote and Emergency Treatment:**

>> Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Ketones and related compounds/

**Human Toxicity Excerpts:**

>> /HUMAN EXPOSURE STUDIES/ Four human volunteers were exposed to concentrations of 2-chloroacetophenone up to 350 mg/cu m until they could no longer tolerate the effects or until a maximum of 4 minute exposure was attained. 2-Chloroacetophenone was primarily a lachrymator. The subjects mainly complained of tingling of the nose and rhinorrhea, burning of the throat, eyes, and skin around the eyes, lacrimation, and some degree of blurred vision. Less frequent, but more severe symptoms included burning in the chest with difficulties in breathing and slight gagging with nausea. At post-exposure examinations, the only constant sign was a mild to moderate conjunctivitis. There was not any chest congestion or sign of obstruction at any time, and all signs had usually disappeared within 10 minutes.

**Non-Human Toxicity Excerpts:**

>> /LABORATORY ANIMALS: Acute Exposure/ Following application of 0.5 mL of solutions of 2-chloroacetophenone in trioctyl phosphate to the intact clipped back skin of rabbits for 30 minutes, primary irritation scores (representing mean values from 2 rabbits treated at each of 6 timed intervals between 1 and 30 minutes after exposure) of 4.0 (treated skin not washed) for a 1% solution and of 5.5 (unwashed), 5.2 (skin washed with water), or 2.9 (washed with water and soap) for 4% solutions were calculated. Scores of 5.0 or more were stated to be required to meet the definition for a skin irritant.

**Human Toxicity Values:**

Quantitative human toxicity values (e.g., lethal dose) for this compound.

>> A 10 minute exposure to 0.85 mg/L is estimated to be lethal in man.

**Non-Human Toxicity Values:**

>> LD50 Rat oral 127 mg/kg

**National Toxicology Program Studies:**

Reports from the National Toxicology Program, an interagency program supported by three government agencies (NIH, FDA, and CDC) within the Department of Health and Human Services. This program plays a critical role in generating, interpreting, and sharing toxicological information about chemicals of public health concerns.

>> Carcinogenesis studies were conducted by exposing groups of F344/N rats and B6C3F1 mice of each sex to air containing 2-chloroacetophenone vapor for ... 2 years. ... Groups of 60 rats of each sex were exposed to a vapor of 0 (chamber control), 1 or 2 mg/cu m (0, 15, or 0.3 ppm) 2-chloroacetophenone, 6 hours per day, 5 days per week. Groups of 60 mice of each sex were exposed to 0 (chamber control), 2, or 4 mg/cu m (0, 3, or 0.6 ppm) on the same schedule. ... Fibroadenomas of the mammary gland occurred in female rats with positive trends, and the incidence in the 2 mg/cu m group was greater than that in chamber controls (control, 12/50; 1 mg/cu m, 19/50; 2 mg/cu m, 23/50). The incidences

of adenomas or adenocarcinomas of the mammary gland were not increased in the exposed groups. Minimal to mild suppurative inflammation of the nasal mucosa was observed at increased incidences in exposed male rats. Hyperplasia and squamous metaplasia of the nasal respiratory epithelium were observed at increased incidences in exposed male and female rats. In mice, squamous metaplasia of the respiratory epithelium of the nasal passage was seen in four females and two males exposed to 4 mg/cu m 2-chloroacetophenone. Inflammation, ulcers, and squamous hyperplasia of the forestomach were observed at increased incidences in exposed female rats. There were no exposure related increased incidences of neoplastic lesions in mice.

## 12. Ecological Information

**Resident Soil (mg/kg)**

>> 4.30e+04

**Industrial Soil (mg/kg)**

>> 1.80e+05

**Resident Air (ug/m3)**

>> 3.10e-02

**Industrial Air (ug/m3)**

>> 1.30e-01

**MCL (ug/L)**

>> 6.0E+01(G)

**Chronic Inhalation Reference Concentration (mg/m3)**

>> 3e-05

**Volatile**

>> Volatile

**Mutagen**

>> Mutagen

**Fraction of Contaminant Absorbed in Gastrointestinal Tract**

>> 1

**Fraction of Contaminant Absorbed Dermally from Soil**

>> 0.1

## 13. Disposal Considerations

**Spillage Disposal**

>> Personal protection: self-contained breathing apparatus. Sweep spilled substance into covered sealable, plastic containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

**Disposal Methods**

>> SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

>> By making package of alpha-chloroacetophenone in paper or other flammable material and burning in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device. By dissolving alpha-

chloroacetophenone in a flammable solvent (such as alcohol) and atomizing in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device.

## 14. Transport Information

**DOT**

2-Chloroacetophenone
6.1
UN Pack Group: II
Reportable Quantity of 100 lb or 45

**IATA**

2-Chloroacetophenone
6.1,
UN Pack Group: II

## 15. Regulatory Information

### TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Section 8(a) of TSCA requires manufacturers of this chemical substance to report preliminary assessment information concerned with production, exposure, and use to EPA as cited in the preamble in 51 FR 41329. Effective date: 1/26/94; Reporting date: 3/28/94.

**Regulatory Information**

**The Australian Inventory of Industrial Chemicals**

>> Chemical: Ethanone, 2-chloro-1-phenyl-

**New Zealand EPA Inventory of Chemical Status**

>> 2-Chloroacetophenone: Does not have an individual approval but may be used under an appropriate group standard

## 16. Other Information

**Other Safety Information**

**Methods of Dissemination**

>> Indoor Air: Chloroacetophenone (CN) can be released into indoor air as fine particulate smoke, vapor, or liquid spray (aerosol).

>> Water: Chloroacetophenone (CN) can be used to contaminate water.

>> Food: Chloroacetophenone (CN) may be used to contaminate food.

>> Outdoor Air: Chloroacetophenone (CN) can be released into outdoor air as fine particulate smoke, vapor from burning munitions, or liquid spray (aerosol).

>> Agricultural: If chloroacetophenone (CN) is released as a liquid spray (aerosol), it has the potential to contaminate agricultural products. If chloroacetophenone (CN) is released as particulate smoke or a vapor, it is highly unlikely to contaminate agricultural products.

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."