





Material Safety Data Sheet

| NFPA | HMIS | Personal Protective Equipment | | | | | | |
|---|---|-------------------------------|---|-------------|---|------------|---|---|
|  | <table><tr><td>Health Hazard</td><td>3</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table> | Health Hazard | 3 | Fire Hazard | 1 | Reactivity | 0 |  |
| Health Hazard | 3 | | | | | | | |
| Fire Hazard | 1 | | | | | | | |
| Reactivity | 0 | | | | | | | |
| | | See Section 15. | | | | | | |

| Section 1. Chemical Product and Company Identification | | | Page Number: 1 |
|--|--|---|---|
| Common Name/ Trade Name | Chloroacetyl Chloride | Catalog Number(s). | C2396 |
| Manufacturer | SPECTRUM QUALITY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | CAS# | 79-04-9 |
| Commercial Name(s) | Not available. | RTECS | A06475000 |
| Synonym | Not available. | TSCA | TSCA 8(b) inventory: Chloroacetyl Chloride |
| Chemical Name | Not available. | CI# | Not available. |
| Chemical Family | Not available. | IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000 | |
| Chemical Formula | C2-H2-Cl2-O | | |
| Supplier | SPECTRUM QUALITY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | | |

| Section 2. Composition and Information on Ingredients | | | | | |
|--|---------|--------------------------|---------------------------|---------------------------|-------------|
| | | Exposure Limits | | | |
| Name | CAS # | TWA (mg/m ³) | STEL (mg/m ³) | CEIL (mg/m ³) | % by Weight |
| 1) Chloroacetyl Chloride | 79-04-9 | 0.05 | | | 100 |
| Toxicological Data on Ingredients Chloroacetyl Chloride: ORAL (LD50): Acute: 220 mg/kg [Mouse]. 208 mg/kg [Rat]. DERMAL (LD50): Acute: 662 mg/kg [Rat]. | | | | | |

| Section 3. Hazards Identification | |
|-----------------------------------|--|
| Potential Acute Health Effects | Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant). Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. |

Continued on Next Page

Potential Chronic Health Effects**CARCINOGENIC EFFECTS:** Classified 4 (No evidence.) by NTP, None. by OSHA, None. by NIOSH.**MUTAGENIC EFFECTS:** Not available.**TERATOGENIC EFFECTS:** Not available.**DEVELOPMENTAL TOXICITY:** Not available.

The substance may be toxic to eyes, central nervous system (CNS), ears, nose/sinuses, throat.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4. First Aid Measures**Eye Contact**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion

Not available.

Section 5. Fire and Explosion Data**Flammability of the Product**

May be combustible at high temperature.

Auto-Ignition Temperature

Not available.

Flash Points

Not available.

Flammable Limits

Not available.

Products of CombustionThese products are carbon oxides (CO, CO₂), halogenated compounds.**Fire Hazards in Presence of Various Substances**

Not available.

Explosion Hazards in Presence of Various Substances

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards

Not available.

Special Remarks on Explosion Hazards

Not available.

Section 6. Accidental Release Measures

| | |
|--------------------|---|
| Small Spill | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |
| Large Spill | Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |

Section 7. Handling and Storage

| | |
|--------------------|--|
| Precautions | Keep container dry. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, alkalis. |
| Storage | Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F). |

Section 8. Exposure Controls/Personal Protection

| | |
|---|---|
| Engineering Controls | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location. |
| Personal Protection | Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots. |
| Personal Protection in Case of a Large Spill | Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| Exposure Limits | TWA: 0.05 STEL: 0.15 (ppm) from ACGIH (TLV) [United States] SKIN TWA: 0.05 from NIOSH TWA: 0.05 (ppm) [Denmark] TWA: 0.05 (ppm) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits. |

Section 9. Physical and Chemical Properties

| | | | |
|--------------------------------------|------------------|--------------|----------------------------|
| Physical state and appearance | Liquid. | Odor | Pungent. (Strong.) |
| Molecular Weight | 112.95 g/mole | Taste | Not available. |
| pH (1% soln/water) | Not available. | Color | Colorless to light yellow. |
| Boiling Point | 105°C (221°F) | | |
| Melting Point | -22°C (-7.6°F) | | |
| Critical Temperature | Not available. | | |
| Specific Gravity | Not available. | | |
| Vapor Pressure | 2.5 kPa (@ 20°C) | | |
| Vapor Density | 3.9 (Air = 1) | | |
| Volatility | Not available. | | |
| Odor Threshold | 0.011 ppm | | |
| Water/Oil Dist. Coeff. | Not available. | | |
| Ionicity (in Water) | Not available. | | |

Continued on Next Page

| | |
|------------------------------|---|
| Dispersion Properties | Partially dispersed in diethyl ether. See solubility in water, diethyl ether, acetone. |
| Solubility | Partially soluble in diethyl ether, acetone. |

Section 10. Stability and Reactivity Data

| | |
|--|--|
| Stability | The product is stable. |
| Instability Temperature | Not available. |
| Conditions of Instability | Not available. |
| Incompatibility with various substances | Reactive with oxidizing agents, alkalis. |
| Corrosivity | Not available. |
| Special Remarks on Reactivity | Not available. |
| Special Remarks on Corrosivity | Not available. |
| Polymerization | Will not occur. |

Section 11. Toxicological Information

| | |
|---|---|
| Routes of Entry | Absorbed through skin. Eye contact. Inhalation. Ingestion. |
| Toxicity to Animals | WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 208 mg/kg [Rat]. Acute dermal toxicity (LD50): 662 mg/kg [Rat]. Acute toxicity of the gas (LC50): 1300 2 hours [Mouse]. |
| Chronic Effects on Humans | CARCINOGENIC EFFECTS: Classified 4 (No evidence.) by NTP, None. by OSHA, None. by NIOSH. May cause damage to the following organs: eyes, central nervous system (CNS), ears, nose/sinuses, throat. |
| Other Toxic Effects on Humans | Hazardous in case of skin contact (corrosive, irritant), of eye contact (corrosive), of ingestion, of inhalation (lung irritant, lung corrosive). |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | Not available. |
| Special Remarks on other Toxic Effects on Humans | Not available. |

Section 12. Ecological Information

| | |
|--|---|
| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation | The products of degradation are as toxic as the product itself. |
| Special Remarks on the Products of Biodegradation | Not available. |

Section 13. Disposal Considerations**Waste Disposal****Section 14. Transport Information****DOT Classification** CLASS 6.1: Poisonous material.**Identification** : Chloroacetyl Chloride, Poison Inhalation Hazard Zone B UNNA: 1752 PG: I**Special Provisions for Transport** Not available.**DOT (Pictograms)****Section 15. Other Regulatory Information and Pictograms****Federal and State Regulations**

California prop. 65 (no significant risk level): Chloroacetyl Chloride
 Rhode Island RTK hazardous substances: Chloroacetyl Chloride
 Pennsylvania RTK: Chloroacetyl Chloride
 Florida: Chloroacetyl Chloride
 Minnesota: Chloroacetyl Chloride
 Massachusetts RTK: Chloroacetyl Chloride
 New Jersey: Chloroacetyl Chloride
 TSCA 8(b) inventory: Chloroacetyl Chloride

California Proposition 65 Warnings**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications

WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
 CLASS E: Corrosive liquid.

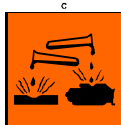
DSCL (EEC) R34- Causes burns.

HMIS (U.S.A.)

| | |
|---------------------|---|
| Health Hazard | 3 |
| Fire Hazard | 1 |
| Reactivity | 0 |
| Personal Protection | |

National Fire Protection Association (U.S.A.)

| | | | |
|--------|---|---|-----------------|
| Health | 3 | 0 | Flammability |
| | 1 | 1 | Reactivity |
| | | | Specific hazard |

WHMIS (Canada) (Pictograms)**DSCL (Europe) (Pictograms)**

**TDG (Canada)
(Pictograms)****ADR (Europe)
(Pictograms)****Protective Equipment**

Gloves.



Full suit.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Face shield.

Section 16. Other Information**MSDS Code** 4520C**References** Not available.**Other Special Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/11/2006.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.