



SAFETY DATA SHEET

Preparation Date: 12/17/2014 Product identifier Revision Date: Not Applicable

Revision Number: Not Applicable

Product code: Product Name: B2077 4-Chlorophenacyl Bromide

Other means of identification

Synonyms: CAS #: RTECS # CI#: 2-Bromo-4-chloroacetophenone 536-38-9 AM5978800 Not available

Recommended use of the chemical and restrictions on use

| Recommended use: Uses advised against | No information available. No information available |
|--|---|
| Supplier: | Spectrum Chemical Mfg. Corp 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000 |
| Order Online At: | https://www.spectrumchemical.com |
| Emergency telephone number | Chemtrec 1-800-424-9300 |
| Contact Person: | Martin LaBenz (West Coast) |
| Contact Person: | Ibad Tirmiz (East Coast) |

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Skin corrosion/irritation | Category 1Sub-category C |
|-----------------------------------|--------------------------|
| Serious eye damage/eye irritation | Category 1 |
| Corrosive to metals | Category 1 |

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage May be corrosive to metals



Hazards not otherwise classified (HNOC) Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician Specific treatment (see .? on this label) Absorb spillage to prevent material damage 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 or doctor/physician. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

| Components | CAS-No. | Weight % | Trade Secret |
|--------------------------|----------|----------|--------------|
| 4-Chlorophenacyl Bromide | 536-38-9 | 100 | * |
| 536-38-9 | | | |

| First aid measures General Advice: | Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126) | |
|--|---|--|
| Skin Contact: | Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately. | |
| Eye Contact: | Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately. | |
| Inhalation: | Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention. | |
| Ingestion: | Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. | |
| Most important symptoms and effect | ts, both acute and delayed | |
| Symptoms | Causes eye burns. Eye contact may result in redness or pain. Causes skin burns. Skin contact may result in redness, pain, inflammation, itching, scaling. | |
| Indication of any immediate medical | attention and special treatment needed | |
| Notes to Physician: | Treat symptomatically | |
| Protection of first-aiders First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste | | |
| | 5. FIRE-FIGHTING MEASURES | |
| | | |
| Extinguishing Media | | |
| Suitable Extinguishing Media: | Carbon dioxide (CO2). Dry chemical. Water spray. | |

| Suitable Extinguishing Media. | Carbon dioxide (CC2). Dry chemical, water spray. |
|--|--|
| Unsuitable Extinguishing Media: | No information available. |
| Specific hazards arising from the ch | emical |
| Hazardous Combustion Products: | Carbon oxides, Halogenated compounds, HCI gas |
| Specific hazards: | May be combustible at high temperatures Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard |
| Special Protective Actions for Firefig | hters |
| Specific Methods: | Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material. |
| Special Protective Equipment for Firefig | hters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear |
| Product code: B2077 | Product name: 4-Chlorophenacyl 3 / 11 |

Bromide

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| Personal Precautions: | Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. | |
|--|---|--|
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. | |
| Methods and material for containment and cleaning up | | |
| Methods for containment | Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Cover with plastic sheet to prevent spreading. | |
| Methods for cleaning up | Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly. | |
| 7. HANDLING AND STORAGE | | |

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. May corrode metallic surfaces. Do not store in uncoated metallic containers.

Incompatible Materials:

Alkalis. Bases. Oxidizing agents. Reducing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

| Components | OSHA | NIOSH | ACGIH | AIHA WHEEL |
|--------------------------|------|-------|-------|------------|
| 4-Chlorophenacyl Bromide | None | None | None | None |
| 536-38-9 | | | | |

Canada

| Components | Alberta | British Columbia | Ontario | Quebec |
|--------------------------------------|---------|------------------|---------|--------|
| 4-Chlorophenacyl Bromide 536-38-9 | None | None | None | None |

Australia and Mexico

| Components | Australia | Mexico |
|--------------------------|-----------|--------|
| 4-Chlorophenacyl Bromide | None | None |
| 536-38-9 | | |

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

| Eye protection: | Safety glasses. Safety glasses with side-shields. |
|---------------------------|--|
| Skin and body protection: | Long sleeved clothing. Chemical resistant apron. Gloves. |
| Respiratory protection: | Effective dust mask. Wear respirator with dust filter |
| Hygiene measures: | Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.

Odor: No information available

Formula: C8H6BrClO

Flashpoint (°C/°F): No information available.

Upper Explosion Limit (%): No information available

Melting point/range(°C/°F): 96.0°-100.0°C/204.8°-212.0°F

Bulk density: No information available

Density (g/cm3): No information available

VOC content (g/L): No information available

Viscosity: No information available Appearance: Crystals. Powder.

Taste No information available

Flammability: No information available

Flash Point Tested according to: Not available

Autoignition Temperature (°C/°F): No information available

Boiling point/range(°C/°F): No information available

Specific gravity: No information available

Evaporation rate: No information available

Odor threshold (ppm): No information available

Miscibility: No information available **Color:** White. Pale Yellow.

Molecular/Formula weight: 233.49

Flash point (°C): No data available

Lower Explosion Limit (%): No information available

pH: No information available

Decomposition temperature(°C/°F): No information available

Vapor pressure @ 20°C (kPa): No information available

Vapor density: No information available

Partition coefficient (n-octanol/water): No information available

Solubility: Soluble in Methanol

Product code: B2077

Product name: 4-Chlorophenacyl Bromide

Reactivity

Reactive with oxidizing agents Reacts with bases Reactive with metals

| Chemical stability Stability: | Stable under recommended storage conditions. |
|-------------------------------------|--|
| Possibility of Hazardous Reactions: | Hazardous polymerization does not occur |
| Conditions to avoid: | Heat. Ignition sources. Incompatible materials. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. |
| Incompatible Materials: | Alkalis. Bases. Oxidizing agents. Reducing agents. |
| Hazardous decomposition products: | Carbon oxides. Halogenated compounds. Hydrogen chloride gas. |
| Other Information | |
| Corrosivity: | No information available |
| Special Remarks on Corrosivity: | No information available |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure: Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

4-Chlorophenacyl Bromide - 536-38-9 LD50/oral/rat = No information available LD50/oral/mouse = >2 gm/kg LD50/dermal/rat = No information available LD50/dermal/rabbit = No information available LC50/inhalation/rat = No information available LC50/inhalation/mouse = No infomation available Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat = VALUE- Acute Tox Oral = No information available

LD50/oral/mouse = Value - Acute Tox Oral = >2g/kg

LD50/dermal/rabbit VALUE-Acute Tox Dermal = No information available

Product code: B2077

Product name: 4-Chlorophenacyl Bromide

LD50/dermal/rat VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat VALUE-Vapor = No information available VALUE-Gas = No information available VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse VALUE-Vapor = No information available VALUE - Gas = No information available VALUE - Dust/Mist = No information available

| Skin Contact: | Causes skin burns. |
|--|---|
| Eye Contact: | Causes eye burns. |
| Inhalation Ingestion | May cause irritation of respiratory tract. Health injuries are not known or expected under normal use. |
| Aspiration hazard | No information available |
| | |
| Delayed and immediate effects as | s well as chronic effects from short and long-term exposure |
| Delayed and immediate effects as Chronic Toxicity | well as chronic effects from short and long-term exposure No information available |
| | . |

Carcinogenic effects:

Not considered carcinogenic

| Components | ACGIH - Carcinogens | IARC | NTP | OSHA HCS - Carcinogens | Australia - Prohibited Carcinogenic Substances | Australia - Notifiable Carcinogenic Substances |
|--------------------------|------------------------|------------|------------|---------------------------|--|--|
| 4-Chlorophenacyl Bromide | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

| Reproductive toxicity | No data is available |
|--------------------------------|--------------------------|
| Reproductive Effects: | No information available |
| Developmental Effects: | No information available |
| Teratogenic Effects: | No information available |
| Specific Target Organ Toxicity | |
| STOT - single exposure | No information available |
| STOT - repeated exposure | No information available |
| Target Organs: | No information available |

12. ECOLOGICAL INFORMATION

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Ecotoxicity

| Ecotoxicity effects: | No data available. |
|--------------------------------|--------------------------|
| Persistence and degradability: | No information available |
| Bioaccumulative potential: | No information available |
| Mobility: | No information available |

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

| Components | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--------------------------|---------------------------|---------------------------|------------------------------|------------------------|
| 4-Chlorophenacyl Bromide | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

| UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: | UN1759 Corrosive solids, n.o.s. (4-Chlorophenacyl Bromide) 8 |
|--|---|
| Packing Group: ERG No: Marine Pollutant DOT RQ (Ibs): Symbol(s): | III 154 No data available No information available G |
| TDG (Canada) UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: Packing Group: Description: | UN1759 Corrosive solid, n.o.s. 8 No information available III No information available |
| ADR | |

ADR

| UN-No: | UN1759 |
|-----------------------|--------------------------|
| Proper Shipping Name: | Corrosive solid, n.o.s. |
| Hazard Class: | 8 |
| Packing Group: | III |
| Subsidiary Risk: | No information available |
| Classification Code: | No information available |

| | 14. TRANSPORT INFORMATION |
|--|--|
| Description: | No information available |
| CEFIC Tremcard No: | No information available |
| IMO / IMDG | |
| UN-No: | UN1759 |
| Proper Shipping Name: | Corrosive solid, n.o.s. |
| Hazard Class: | 8 |
| Subsidiary Risk: | No information available |
| Packing Group: | |
| Description: IMDG Page: | No information available No information available |
| Marine Pollutant | No information available |
| EMS: | F-A |
| MFAG: | No information available |
| Maximum Quantity: | No information available |
| | |
| RID | |
| UN-No: Dropor Shipping Nome | UN1759 Corrosive solid, n.o.s. |
| Proper Shipping Name: Hazard Class: | 8 |
| Subsidiary Risk: | No information available |
| Packing Group: | |
| Classification Code: | No information available |
| Description: | No information available |
| ICAO | |
| UN-No: | UN1759 |
| Proper Shipping Name: | Corrosive solid, n.o.s. |
| Hazard Class: | 8 |
| Subsidiary Risk: | No information available |
| Packing Group: | |
| Description: | No information available |
| ΙΑΤΑ | |
| UN-No: | UN1759 |
| Proper Shipping Name: | Corrosive solid, n.o.s. |
| Hazard Class: | 8 |
| Subsidiary Risk: | No information available |
| Packing Group: | |
| ERG Code: Description: | 8L No information available |
| | |

15. REGULATORY INFORMATION

International Inventories

| Components | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|--------------------------|-----------|----------------------|------------------------|----------------------|-------------|---------------------|-------------------|
| 4-Chlorophenacyl Bromide | Present | Present KE- 03641 | Not present | Present (3)- 2934 | Not present | Not present | Present 208-631-5 |

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer: This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity: This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

| Components | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--------------------------|------------|------------------------|-------------------------------|----------------------------------|
| 4-Chlorophenacyl Bromide | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| • | Substances and their | Section 302 Extremely Hazardous Substances and TPQs | Hazardous | Chemical Category | Section 313 - Reporting de minimis |
|-----------------------------|----------------------|---|-----------|-------------------|---------------------------------------|
| 4-Chlorophenacyl Bromide | None | None | None | None | None |

U.S. TSCA

| • | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--------------------------|--|--|
| 4-Chlorophenacyl Bromide | Not Applicable | Not Applicable |

Canada

WHMIS hazard class:

E Corrosive material

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

| Components | Canada (DSL) | Canada (NDSL) |
|--------------------------|--------------|---------------|
| 4-Chlorophenacyl Bromide | Not Listed | Present |

| Components | CEFA Schedule 1 - TOXIC Substances | CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting | |
|--------------------------|------------------------------------|--|--|
| 4-Chlorophenacyl Bromide | Not listed | Not listed | |

EU Classification

R-phrase(s) not determined (not applicable)

S -phrase(s)

none

| Components | Classification | Concentration Limits: | Safety Phrases |
|--------------------------|----------------|-----------------------|----------------|
| 4-Chlorophenacyl Bromide | | No information | |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Product code: B2077

16. OTHER INFORMATION

Preparation Date: Revision Date: Prepared by:

Disclaimer:

12/17/2014 Not Applicable Sonia Owen

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) 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 SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet