

# MATERIAL SAFETY DATA SHEET

<b>NFPA</b>	<b>HMIS</b>	<b>Personal Protective Equipment</b>						
	<table border="1"> <tr> <td>Health Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Fire Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	1	Fire Hazard	1	Reactivity	0	
Health Hazard	1							
Fire Hazard	1							
Reactivity	0							
See Section 8.								

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product code:</b>	C2213
<b>Product Name:</b>	CIPROFLOXACIN HYDROCHLORIDE, USP
<b>Chemical Name:</b>	3-Quinolincarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-, monohydrochloride hydrate
<b>Synonyms:</b>	3-Quinolincarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-, monohydrochloride, monohydrate Ciprofloxacin hydrochloride monohydrate Ciprofloxacin hydrochloride hydrate
<b>Recommended use:</b>	Medication. Antibiotic.
<b>CAS #:</b>	86393-32-0
<b>Formula:</b>	C17-H18-F-N3-O3.HCl.H2O
<b>RTECS #</b>	VB1983770
<b>CI#:</b>	Not available
<b>Supplier:</b>	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
<b>Emergency Telephone Number:</b>	CHEMTREC: 1-800-424-9300
<b>Contact Person:</b>	Martin LaBenz (West Coast)
<b>Contact Person:</b>	Chris Terpak (East Coast)

## 2. HAZARDS IDENTIFICATION

<b>EMERGENCY OVERVIEW</b>			
May cause skin and eye irritation. May cause irritation of respiratory tract.			
<b>Odor:</b> No information available	<b>Physical state:</b> Solid.	<b>Appearance:</b> Powder. Crystalline powder.	<b>Color:</b> Yellowish. Light yellow.

**OSHA Regulatory Status** This material is not considered hazardous by the OSHA Hazard Communication Standard (29 1910.1200)

## 2. HAZARDS IDENTIFICATION

### POTENTIAL HEALTH EFFECTS

**Principal Routes of Exposure:**

Ingestion. Inhalation.

**Acute Potential Health Effects:****Skin Contact:**

May cause skin irritation.

**Eye Contact:**

May cause eye irritation.

**Inhalation:**

May cause irritation of respiratory tract.

**Ingestion:**

Ingestion may cause vomiting and nausea. May cause abdominal discomfort. May cause diarrhea. May cause constipation. It may affect the kidneys. May affect the liver. May cause central nervous system effects. May affect the blood. May affect the cardiovascular system.

**Chronic Potential Health Effects:****Target Organs:**

Kidneys. Liver. Central nervous system. Musculoskeletal system (joints, tendons).

**Carcinogen Status:**

No information available

**Mutagenic Effects:**

May affect genetic material  
Experiments with bacteria have shown mutagenic effects  
Animal experiments showed mutagenic effects  
Experiments with human lymphocytes have shown mutagenic effects

**Teratogenic Effects:**

No information available

**Aggravated Medical Conditions:**

Liver disease. Kidney disease. Heart condition. Seizures. Hypersensitivity to material. Hypersensitivity to fluoroquinolones. Flare-up of gout. Worsening of myasthenia gravis.

See Section 11 for additional Toxicological Information

### POTENTIAL ENVIRONMENTAL EFFECTS

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Ciprofloxacin Hydrochloride	86393-32-0	100

## 4. FIRST AID MEASURES

**General Advice:**

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
<b>Eye Contact:</b>	Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. In case of shortness of breath, give oxygen. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
<b>Notes to Physician:</b>	Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

### Flammable Properties

<b>Flashpoint (°C/°F):</b>	Not applicable
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<b>Tested according to:</b> Not applicable
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<b>Lower Explosion Limit (%):</b>	No information available
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<b>Upper Explosion Limit (%):</b>	No information available
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<b>Autoignition Temperature (°C/°F):</b>	No information available
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**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

**Hazardous Combustion Products:** Carbon monoxide; Carbon dioxide

**Specific hazards:** May be combustible at high temperatures.

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**Specific Methods:** No information available.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions:

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

### Environmental Precautions:

No information available..

### Methods for Cleaning Up:

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

**Safe Handling Advice:**

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

### Storage

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Sensitive to light. Store in light-resistant containers. Store away from incompatible materials.

**Incompatible Products:**

Oxidizing agents. Iron.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**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.

**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:** 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.

**National occupational exposure limits****United States**

U.S Occupational Exposure Limits: Not determined

**Canada**

Canada Occupational Exposure Limits: Not determined

**Australia and Mexico**

Occupational Exposure Limits for Australia and Mexico: Not determined

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Powder. Crystalline powder.	<b>Color:</b> Yellowish. Light yellow.
<b>Odor:</b> No information available	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 385.82
<b>Flash point (°C):</b> Not applicable	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Boiling point/range(°C/°F):</b> 581.8 °C/1079.2 °F
<b>Melting point/range(°C/°F):</b> 318-320 °C/604.4-608 °F	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Specific gravity:</b> No information available
<b>Density (g/cm<sup>3</sup>):</b> No information available	<b>Bulk density:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Vapor density:</b> No information available	<b>Evaporation rate:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Miscibility:</b> No information available

### Solubility:

Sparingly soluble in water  
Very slightly soluble in Ethanol  
Slightly soluble in glacial Acetic acid  
Slightly soluble in Methanol  
Practically insoluble in Acetone  
Practically insoluble in Acetonitrile  
Practically insoluble in  
Dichloromethane  
Practically insoluble in Ethyl Acetate  
Practically insoluble in Hexane

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable at normal conditions
<b>Conditions to avoid:</b>	Heat. 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.
<b>Materials to avoid:</b>	Oxidising agents. Iron.
<b>Hazardous decomposition products:</b>	Carbon monoxide. Carbon dioxide.
<b>Possibility of Hazardous Reactions:</b>	No information available
<b>Polymerization:</b>	Hazardous polymerisation does not occur
<b>Corrosivity:</b>	No information available
<b>Special Remarks on Corrosivity:</b>	No information available

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

*Ciprofloxacin Hydrochloride - 86393-32-0*

- LD50/oral/rat** = No information available
- LD50/oral/mouse** = No information available
- LD50/dermal/rabbit** = No information available
- LD50/dermal/rat** = No information available
- LC50/inhalation/rat** = No information available
- LC50/inhalation/mouse** = No information available
- Other LD50 information** = No information available

#### Product Information

- LC50/inhalation/rat** = No information available
- LC50/Inhalation/mouse** = No information available
- LD50/dermal/rabbit** = No information available
- LD50/dermal/rat** = No information available
- LD50/oral/rat** = No information available
- LD50/oral/mouse** = No information available

#### Local Effects

- Skin irritation:** May cause skin irritation.
- Eye irritation:** Contact with eyes may cause irritation. May cause burning, itching, tearing, conjunctival hyperemia, lid edema, keratitis, decreased vision, photophobia.
- Inhalation:** May cause irritation of respiratory tract.
- Ingestion:** Ingestion may cause nausea, vomiting, diarrhea. May cause constipation. May cause upset stomach. May cause abdominal pain. May cause heartburn. May cause dyspepsia. May cause dysphagia (difficulty swallowing; pain while swallowing). May cause flatulence. May cause dry mouth. May cause pain in the mouth with redness, blistering, white patches or sores. May affect behavior/central nervous system (somnolence, tremor, hallucinations). May affect the cardiovascular system (pulse rate, hypotension, hypertension, palpitations, atrial flutter, angina pectoris, syncope, vasculitis). May affect the blood (changes in white blood cell count, hemolytic anemia, methemoglobinemia). It may affect the spleen. It may affect the pancreas (pancreatitis). May cause hyperglycemia. May cause hyperkalemia.
- Sensitization:** No information available

### Chronic Toxicity

**Chronic Toxicity**

Prolonged or repeated ingestion may affect behavior/central nervous system (headache, somnolence, weakness, lethargy, fatigue, drowsiness, hallucinations, agitation, restlessness, irritability, confusion, tremor, delirium, nightmares, insomnia lightheadness, ataxia, seizures, dizziness, ). Prolonged or repeated ingestion may affect the musculoskeletal system (joints, tendons) and cause tendonitis, tendon rupture, myalgia, myoclonus, joint pain or stiffness, back or neck pain. Prolonged or repeated ingestion may affect the liver (jaundice, liver function tests impaired, hepatic necrosis), and urinary system/kidneys (nephritis, hematuria, cylindruria, renal failure, urinary retention, polyuria, urethral bleeding, renal calculi, interstitial nephritis). Prolonged or repeated ingestion may affect the blood (changes in cell count, eosinophilia, agranulocytosis, leukopenia, leukocytosis, pancytopenia). Prolonged or repeated ingestion may cause cutaneous candidiasis, photosensitivity, hyperpigmentation, and hypersensitivity or anaphylactic reactions such dermatitis, urticaria, flushing, rash, erythema nodosum, swelling of the lips, neck, face, conjunctivae, hands, angioedema, difficulty breathing, shortness of breath, Stevens-Johnson syndrome.

**Carcinogenic effects:** Not considered carcinogenic

**Mutagenic Effects:** May affect genetic material  
Experiments with bacteria have shown mutagenic effects  
Animal experiments showed mutagenic effects  
Experiments with human lymphocytes have shown mutagenic effects

**Reproductive Effects:** No information available

**Teratogenic Effects:** No information available

**Target Organs:** Kidneys. Liver. Central nervous system. Musculoskeletal system (joints, tendons).

## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY

**Toxicity to terrestrial and aquatic plants and animals:** No information available

**Ecotoxicity effects:** No data available

**Aquatic toxicity:** No information available

**Mobility:** No information available

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

## 13. DISPOSAL CONSIDERATIONS

**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
Ciprofloxacin Hydrochloride	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** Not regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** None  
**Subsidiary Risk:** Not applicable  
**Marine Pollutant:** No data available  
**ERG No:** No information available  
**DOT RQ (lbs):** No information available

### TDG (Canada)

**Proper Shipping Name:** No information available  
**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Description:** No information available

### ADR

**Proper Shipping Name:** No information available  
**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**Proper Shipping Name:** No information available  
**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**Proper Shipping Name:** No information available  
**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Proper Shipping Name:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available



**Description:** No information available

#### IATA

**Proper Shipping Name:** No information available  
**UN-No:** Not Regulated  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Description:** No information available

### 15. REGULATORY INFORMATION

#### International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ciprofloxacin Hydrochloride</i>	Not Listed	Not present	Not present	Not present	Present	Not present	Not present

#### 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:
<i>Ciprofloxacin Hydrochloride</i>	Not Listed	Not Listed	Not Listed	Not Listed

#### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Ciprofloxacin Hydrochloride</i>	None	None	None	None	None

#### U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Ciprofloxacin Hydrochloride</i>	Not Applicable	Not Applicable

#### Canada

##### WHMIS hazard class:

Non-controlled

##### 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

**Product code:** C2213

**Product name:** CIPROFLOXACIN  
HYDROCHLORIDE, USP

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Components	Canada (DSL)	Canada (NDSL)
Ciprofloxacin Hydrochloride	Not Listed	Not Listed

#### EU Classification

**R -phrase(s)**

not determined

**S -phrase(s)**

none

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

**Indication of danger:**

Not dangerous

### 16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

**Preparation Date** 14-Feb-2011  
**Reason for revision:** Not applicable  
**Prepared by:** Sonia Owen  
**Literature reference:** No information available

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. The physical properties reported in this MSDS 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 MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.