

Scientific Documentation

Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED (TM)

Not appropriate for regulatory submission.

Please visit www.spectrumchemical.com or contact Tech Services for the most up-to-date information contained in this information package.

Spectrum Chemical Mfg Corp 769 Jersey Avenue New Brunswick, NJ 08901 Phone 732.214.1300





Table of Contents

Product Specification Certificate of Analysis Safety Data Sheet (SDS) Certification of Current Good Manufacturing Practices (cGMP) Manufacturing Process Flowchart Technical Statements Elemental Impurities Statement Residual Solvents Statement General Label Information – Sample Label



Specification for Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED (TM) (LI901)

Item Number	LI901
Item	Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED (TM)
CAS Number	6108-05-0
Molecular Formula	$C_{14}H_{22}N_2O \cdot HCI \cdot H_2O$
Molecular Weight	288.81
MDL Number	
Synonyms	Lignocaine Hydrochloride

Test	Specification		
	Min	Max	
ASSAY (ANHYDROUS BASIS)	97.5	102.5%	
WATER DETERMINATION	5.0	7.0%	
RESIDUE AFTER IGNITION		0.1%	
SULFATE		0.1 %	
ORGANIC IMPURITIES:			
LIDOCAINE RELATED COMPOUND H		0.10 %	
ROPIVACAINE RELATED COMPOUND A		0.01 %	
ANY INDIVIDUAL IMPURITY		0.10 %	
TOTAL IMPURITIES		0.5 %	
ELEMENTAL IMPURITIES		AS REPORTED	
MICROBIAL LIMITS			
BACTERIAL ENDOTOXINS		1.1 USP EU/mg	
TOTAL AEROBIC MICROBIAL COUNT		10 ³ cfu/g	
TOTAL YEAST AND MOLDS		10 ² cfu/g	
IDENTIFICATION A) FTIR	SPECTRUM MATCHES REFERENCE		
RETEST DATE			
DATE OF MANUFACTURE			
APPEARANCE			
RESIDUAL SOLVENTS		AS REPORTED	

Spectrum Chemical Mfg Corp

Corporate Headquarters:	West Coast Facility:
769 Jersey Ave.	14422 S. San Pedro St.
New Brunswick, NJ 08901	Gardena, CA 90248
732.214.1300	310.516.8000



Certificate Of Analysis

Item Number	LI901	Lot Number	4LC0039
Item	Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED (TM)	Manufacturer Lot	LDH/720021
CAS Number	6108-05-0	Manufacturer Code	7068
Molecular Formula	$C_{14}H_{22}N_2O \cdot HCI \cdot H_2O$	Molecular Weight	288.81

TECT	SPECIFICATION			
TEST	MIN	MAX	RESULT	
ASSAY (ANHYDROUS BASIS)	97.5	102.5%	98.1 %	
WATER DETERMINATION	5.0	7.0%	6.0 %	
RESIDUE AFTER IGNITION		0.1%	<0.1 %	
SULFATE		0.1 %	<0.1 %	
ORGANIC IMPURITIES:				
LIDOCAINE RELATED COMPOUND H		0.10 %	NOT DETECTED	
ROPIVACAINE RELATED COMPOUND A		0.01 %	NOT DETECTED	
ANY INDIVIDUAL IMPURITY		0.10 %	NOT DETECTED	
TOTAL IMPURITIES		0.5 %	NOT DETECTED	
ELEMENTAL IMPURITIES		AS REPORTED	COMPLIES WITH STANDARD	
MICROBIAL LIMITS				
BACTERIAL ENDOTOXINS		1.1 USP EU/mg	<1.1 EU/MG	
TOTAL AEROBIC MICROBIAL COUNT		10³cfu/g	<10^3 CFU/G	
TOTAL YEAST AND MOLDS		10²cfu/g	<10^2 CFU/G	
IDENTIFICATION A) FTIR	SPECTRUM MATCHES REFERENCE		SPECTRUM MATCHES REFERENCE	
RETEST DATE			31-JUL-2025	
DATE OF MANUFACTURE			01-AUG-2020	
APPEARANCE			WHITE CRYSTAL POWDER	
RESIDUAL SOLVENTS		AS REPORTED		
CLASS 3 (solvent) / ACETONE			<5000 PPM	
CLASS 2 (solvent) / TOLUENE			<890 PPM	

Certificate of Analysis Results Entered By:

TDAO Tiffany DAO 16-AUG-22 08:43:19

Spectrum Chemical Mfg Corp 777 Jersey Avenue New Brunswick 08901 NJ



All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

Spectrum Chemical Mfg. Corp. repackages Active Pharmaceutical Ingredient chemicals provided by other manufacturers and suppliers. For traceability purposes, Spectrum's Certificate of Analysis contains an identifier code unique to each manufacturer or supplier, as well as the chemical's lot number provided on the original manufacturer Certificate of Analysis. This material is manufactured by Swati Spentose Private Limited at A-1/2102,2103, Phase III, GIDC-Vapi, Gujarat 396195, India (IND). Copies of the original Certificate of Analysis are available upon request from your Spectrum Sales Representative or by calling Spectrum's Quality Department at 1-800-772-8786.

AWILLIAMS Allison Williams 16-AUG-22 14:03:29

SAFETY DATA SHEET

Revision date 13-July-2022

1. Identification	
Product identifier	
Product Name	LIDOCAINE HYDROCHLORIDE, MONOHYDRATE, USP, bioCERTIFIED™
Other means of identification	
Product Code(s)	LI901
Synonyms	None
Recommended use of the chemica	and restrictions on use
Recommended use	No information available
Restrictions on use	No information available
Details of the supplier of the safety	data sheet
<u>Supplier Address</u> Spectrum Chemical Mfg. Corp. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000	
Emergency telephone number	
Emergency Telephone	Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Acute toxicity - Oral

Category 4

Hazards not otherwise classified (HNOC) Not applicable

Label elements

Warning

Hazard statements Harmful if swallowed



Revision Number 1



Appearance Crystalline powder

Physical state Solid

Odor Characteristic

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

Other information

No information available.

3. Composition/information on ingredients

Substance

Chemical name	CAS No	Weight-%	Trade secret
Lidocaine Hydrochloride, Monohydrate	6108-05-0	100	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.		
Inhalation	Remove to fresh air.		
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.		
Skin contact	Wash skin with soap and water.		
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.		
Most important symptoms and effects, both acute and delayed			
Symptoms	No information available.		
Indication of any immediate medical attention and special treatment needed			
Note to physicians	Treat symptomatically.		

5. Fire-fighting measures

Suitable Extinguishing Media Large Fire	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. CAUTION: Use of water spray when fighting fire may be inefficient.		
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.		
Specific hazards arising from the chemical	No information available.		
Hazardous combustion products	Carbon Monoxide, Carbon Dioxide. Nitrogen oxides (NOx). hydrogen chloride gas.		
Explosion data Sensitivity to mechanical impac	et none.		
Sensitivity to static discharge	none.		
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.		
6. Accidental release measures			
Personal precautions, protective ec	uipment and emergency procedures		
Personal precautions	Ensure adequate ventilation.		

Methods	and	material fo	r con	tainment	and	cleaning up
methous	anu	materiario	COL	lannent	anu	cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling			
Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.		
Conditions for safe storage, including any incompatibilities			
Storage Conditions	Keep container tightly closed. Store at controlled room temperature. Keep out of the reach of children.		

8. Exposure controls/personal protection

Control parameters

Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
Individual protection measures, suc	ch as personal protective equipment
Eye/face protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and o Physical state Appearance	<u>chemical properties</u> Solid Crystalline powder	
Color	White	
Odor	Characteristic	
Odor threshold	No information available	
Property_	Values	Remarks • Method
рН	no data available	None known
Melting point / freezing point	74 °C / 165.2 °F	None known
Boiling point / boiling range	no data available	None known
Flash point	no data available	None known
Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive	No data available	
limits		
Lower flammability or explosive	No data available	
limits	Ne dete eveileble	
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density	no data available Soluble in water	None known None known
Water solubility		None known
Solubility(ies)	Insoluble in diethyl ether Soluble in Benzene	NOTE KTOWN
	Soluble in Ethanol	
	Soluble in Chloroform	
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known
Decomposition temperature	no data avallable	None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known
Dynamic viscosity		None known
Other information		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	
Molecular weight	288.81	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. Stability and reactivity

Reactivity	No information available.	
Chemical stability	Stable under recommended storage conditions.	
Possibility of hazardous reactions	None under normal processing.	
Conditions to avoid	None known based on information supplied.	
Incompatible materials	None known based on information supplied.	
Hazardous decomposition products None known based on information supplied.		

11. Toxicological information

Information on likely routes of exposure

Product Information	
Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

No information available.

Acute toxicity

Numerical measures of toxicity No information available

Unknown acute toxicity

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity	No information available. No information available. No information available. No information available.
Reproductive toxicity	No information available.
STOT - single exposure STOT - repeated exposure Aspiration hazard	No information available. No information available. No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Persistence and degradability Bioaccumulation

No information available. Inherently biodegradable. No information available.

13. Disposal considerations

Waste treatment methods	
Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. Transport information

not regulated
not regulated

15. Regulatory information

International Inventories

TSCA	Not listed
Note	*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements
DSL/NDSL EINECS/ELINCS ENCS IECSC KECL PICCS AICS	Does not Comply Does not Comply This product complies with ENCS: This product does not comply with china: Does not Comply Does not Comply All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 2 Flammability 0 Instability 0 Physical and chemical properties -HMIS Health hazards 2 Flammability 0 Physical hazards 0 Personal protection X Key or legend to abbreviations and acronyms used in the safety data sheet Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit) Ceiling Maximum limit value Key literature references and sources for data used to compile the SDS Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s)) U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S. Environmental Protection Agency High Production Volume Chemicals Food Research Journal Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) Japan GHS Classification Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) National Library of Medicine's PubMed database (NLM PUBMED) National Toxicology Program (NTP) New Zealand's Chemical Classification and Information Database (CCID) Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program Organization for Economic Co-operation and Development Screening Information Data Set World Health Organization **Revision date**

Revision date Revision Note 13-July-2022 No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

spectrum

Certification of Compliance with current Good Manufacturing Practices

Dear Valued Customer:

Spectrum Chemical Mfg Corp certifies that the following product(s) is produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

Catalog Number	Product Name
LI901	Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED $_{\text{TM}}$

Spectrum is an FDA registered and inspected Drug Establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

Spectrum-Gardena, CA: Spectrum-New Brunswick, NJ: 2020632 2246824

Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at <u>qualityassurance@spectrumchemical.com</u>

Sincerely,

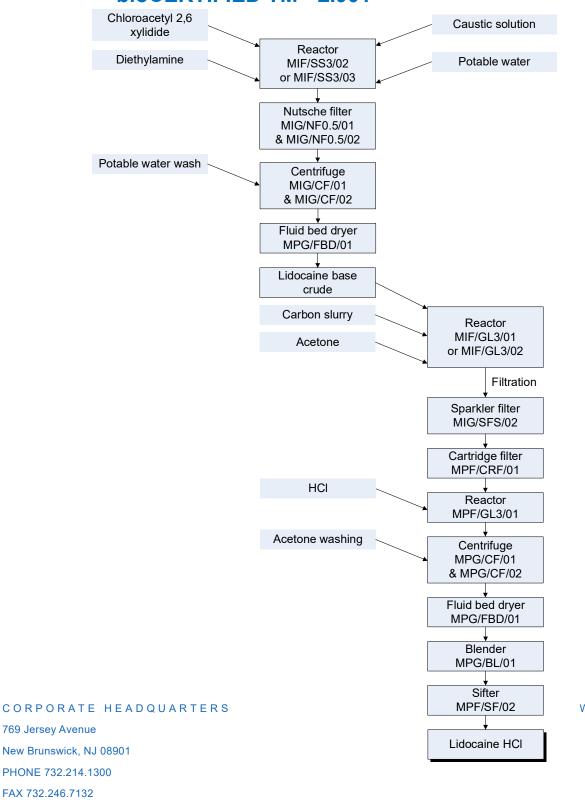
Oulu Clamy

Oralia Chavez Quality Assurance Specialist



Manufacturing Process Flowchart

Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED TM - LI901



14422 South San Pedro Street Gardena, California 90248 PHONE 310.516.8000 FAX 310.516.9843

LI901, Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED ™

Source Statement

The above mentioned catalog item is manufactured by chemical synthesis. No animal or plant derived products are used in the manufacturing process.

BSE/TSE Statement

The above mentioned catalog item does not contain nor is manufactured using any animal derived products and is therefore, BSE/TSE free.

Allergen Statement

The above mentioned catalog item does not contain any of the following:

- Milk
- Egg
- Fish
- Shellfish
- Tree Nuts
- Wheat
- Peanuts

- Soy
- Cereals containing Gluten

spectrum

- Celery
- Mustard
- Sesame Seed
- Corn
- Sulfites > 10 ppm

EU Fragrance Allergen Statement

The above mentioned catalog item does not contain any of the 26 EU fragrance allergens listed in Annex III lines 67-92. These substances are not intentionally added to the following chemical and therefore are not expected to be present.

GMO Statement

The above mentioned catalog item is manufactured without the use of genetically modified organisms and is therefore GMO free.

Melamine Statement

The above mentioned catalog does not use or add melamine to the manufacturing process and is considered melamine-free.



Nitrosamine Statement

Based on knowledge of the manufacturing process, nitrosamine impurities are not known or suspected to be present in this material.

Animal Testing Statement

The above mentioned catalog item has not been tested on animals.

Organic Compliance Statement

The above mentioned catalog item has not been produced using GMOs, irradiation, ethylene oxide (EtO) or sewage sludge.

Shelf Life Statement

The above-mentioned catalog item is typically assigned a shelf life of 60 months from the date of manufacture. The actual assigned shelf life for any specific lot should be referenced on the Certificate of Analysis.

Other Chemicals Statement

Spectrum does not have any reason to suspect the above mentioned catalog item contains any of the following chemicals. This product does not come into contact with these chemicals during packaging or storage:

- Aflatoxins
- Antibiotics
- Bisphenol A (BPA)
- CMR Substances

- Parabens
- Pesticides
- Phthalates
- Preservatives



RE: Elemental Impurities - Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED TM (Cat# LI901)

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above mentioned material complies with the USP<232>, <233> Elemental Impurities and the ICH Q3D Elemental Impurities Guideline. No Class 1, Class 2A, Class 2B or Class 3 elemental impurities are likely to be present. These substances are not used in the production process, are not intentionally added or known to be present in the above mentioned material.

This information is subject to change and is intended for risk assessment only. It is responsibility of the end user to evaluate suitability of any chemical for the intended use as well as to assess compound-specific limits of daily intake of metal impurities. For lot-specific information, please refer to the respective Certificate of Analysis.

If you have any further questions, please contact us by telephone at 1(800)772-8786 Option 2, or by email at <u>TechServices@spectrumchemical.com</u>.

Sincerely,

Technical Services Spectrum Chemical Mfg. Corp.

This document has been produced electronically and is valid without a signature.

CORPORATE HEADQUARTERS

769 Jersey Avenue New Brunswick, NJ 08901 PHONE 732.214.1300 FAX 732.246.7132

WEST COAST FACILITY

14422 South San Pedro Street Gardena, California 90248 PHONE 310.516.8000 FAX 310.516.9843



RE: Residual Solvents – Lidocaine Hydrochloride, Monohydrate, USP, bioCERTIFIED TM (Cat# LI901)

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above mentioned catalog item complies with the requirements of USP <467> Residual Solvents and ICH Q3C Residual Solvents Guideline. The following solvents are likely to be present:

Residual Solvent	Class	Expected Concentration
Acetone	2	< 890 ppm
Toluene	3	< 5000 ppm

No Class 1 or other solvents are used or produced in the manufacturing process of this material.

For lot-specific information, please refer to the respective Certificate of Analysis.

If you have any further questions, please contact us by telephone at 1(800)772-8786 Option 2, or by email at <u>TechServices@spectrumchemical.com</u>.

Sincerely,

Technical Services Spectrum Chemical Mfg. Corp.

This document has been produced electronically and is valid without a signature.

CORPORATE HEADQUARTERS

769 Jersey Avenue New Brunswick, NJ 08901 PHONE 732.214.1300 FAX 732.246.7132

WEST COAST FACILITY

14422 South San Pedro Street Gardena, California 90248 PHONE 310.516.8000 FAX 310.516.9843

AN ISO 9001:2015 REGISTERED COMPANY

spectrum®

Label Information

The Spectrum label presents technical and safety information in an easily understood format. Our technical specialists stay abreast of the latest requirements of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS), as well as the Occupational Safety and Health Administration (OSHA), the Food and Drug Administration (FDA) and other government regulatory agencies in order to ensure compliance, accuracy and concise hazard communication. Below you will find a typical label example for this catalog item.



Spectrum Chemical Mfg Corp

Corporate Headquarters:

769 Jersey Ave. New Brunswick, NJ 08901 *West Coast Facility:* 14422 S. San Pedro St. Gardena, CA 90248 310.516.8000

732.214.1300