

Scientific Documentation

Zinc Sulfate, Monohydrate, FCC

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





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Specification for Zinc Sulfate, Monohydrate, FCC (Z1100)

Item Number	Z1100
Item	Zinc Sulfate, Monohydrate, FCC
CAS Number	7446-19-7
Molecular Formula	ZnSO ₄ •H ₂ O
Molecular Weight	179.45
MDL Number	
Synonyms	

Test	Speci	fication
	Min	Max
$ASSAY (ZnSO_4.H_2O)$	98.0	100.5 %
ACIDITY		TO PASS TEST
ALKALIES AND ALKALINE EARTHS		0.5 %
CADMIUM (Cd)		2 mg/kg
LEAD (Pb)		4 mg/kg
MERCURY		5 mg/kg
SELENIUM (Se)		0.003 %
IDENTIFICATION		TO PASS TEST
CERTIFIED KOSHER		
CERTIFIED HALAL		
RETEST DATE		
DATE OF MANUFACTURE		
APPEARANCE		

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	Z1100	Lot Number	2ND0024
Item	Zinc Sulfate, Monohydrate, FCC	CAS Number	7446-19-7
Molecular Formula	ZnSO ₄ •H ₂ O	Molecular Weight	179.45

TECT	SPECIFICATION		DECLUIT
TEST	MIN	MAX	RESULT
ASSAY (ZnSO ₄ .H ₂ O)	98.0	100.5 %	99.2 %
ACIDITY		TO PASS TEST	PASSES TEST
ALKALIES AND ALKALINE EARTHS		0.5 %	0.1%
CADMIUM (Cd)		2 mg/kg	<2 mg/kg
LEAD (Pb)		4 mg/kg	<4 mg/kg
MERCURY		5 mg/kg	<5 mg/kg
SELENIUM (Se)		0.003 %	<0.003 %
IDENTIFICATION		TO PASS TEST	PASSES TEST
CERTIFIED KOSHER			CERTIFIED KOSHER
CERTIFIED HALAL			CERTIFIED HALAL
RETEST DATE			12-APR-2025
DATE OF MANUFACTURE			12-APR-2022
APPEARANCE			WHITE CRYSTALLINE POWDER
MONOGRAPH EDITION			FCC 13

Certificate of Analysis Results Entered By:

CACEVEDO Charmian Acevedo 05-APR-24 08:08:53

Spectrum Chemical Mfg Corp 755 Jersey Avenue New Brunswick 08901 NJ



Certificate of Analysis Results Approved By:

AWILLIAMS Allison Williams 05-APR-24 08:53:46

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.

SAFETY DATA SHEET

Revision date 15-June-2021

1. Identification	
Product identifier	
Product Name	ZINC SULFATE, FCC
Other means of identification	
Product Code(s)	Z1100
UN/ID no	UN3077
Synonyms	None
Recommended use of the chemical and restrictions on use	
Recommended use	No information available
Restrictions on use	No information available
Details of the supplier of the safety data sheet	
Supplier Address 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
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

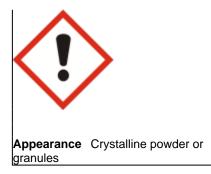
Label elements

Warning

<u>Hazard statements</u> Harmful if swallowed Causes serious eye irritation May cause respiratory irritation



Revision Number 2



Physical state Solid

Odor Odorless

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Wear eye protection/ face protection Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention IF INHALED: Remove person to fresh air and keep comfortable for breathing Call a POISON CENTER or doctor if you feel unwell IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

Other information

Causes mild skin irritation. Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

3. Composition/information on ingredients

Substance

Chemical name	CAS No	Weight-%	Trade secret
Zinc Sulfate, mnohydrate	7446-19-7	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. IF exposed or concerned: Get medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
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.	
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).	
Most important symptoms and effects, both acute and delayed		
Symptoms	May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.	
Indication of any immediate median ottention and appeals treatment peopled		

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.	
Large Fire	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.	
Explosion data Sensitivity to mechanical impact 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 equipment and emergency procedures		
Personal precautions	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.	

Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and 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

Other information

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Hygroscopic. It absorbs moisture from the air. Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place. 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, such	ch as personal protective equipment
Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
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	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties		
Physical state	Solid	
Appearance	Crystalline powder or granules	
Color	White	
Odor	Odorless	
Odor threshold	No information available	
Property_	<u>Values</u>	Remarks • Method
рН	no data available	None known
Melting point / freezing point	238 °C / 460.4 °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		
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density	3.20	None known
Water solubility	Soluble in water	None known
Solubility(ies)	Insoluble in Alcohol	None known

Partition coefficient Autoignition temperature	No data available no data available	None known None known None known
Decomposition temperature Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known
Other information		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	
Molecular weight	179.45	
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. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).
Symptoms related to the physical, or	chemical and toxicological characteristics
Symptoms	May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.
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	May cause skin irritation. Classification based on data available for ingredients. Classification based on data available for ingredients. Causes serious eye irritation. No information available. No information available.
Reproductive toxicity	No information available.
STOT - single exposure STOT - repeated exposure Aspiration hazard	May cause respiratory irritation. No information available. No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity	Very toxic to aquatic life with long lasting effects.
Persistence and degradability Bioaccumulation	No information available. Inherently biodegradable.
Other adverse effects	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

DOT UN/ID no Proper Shipping Name: Hazard class Packing group: Special Provisions Marine Pollutant Description: Emergency Response Guide Number	UN3077 Environmentally hazardous substance, solid, n.o.s. 9 III 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33, 8 Severe Marine Pollutant UN3077, Environmentally hazardous substance, solid, n.o.s., 9, III, Marine pollutant 171
<u>TDG</u> UN-No: Proper Shipping Name: Hazard class Packing Group: Description:	UN3077 Environmentally hazardous substance, solid, n.o.s. 9 III UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate), 9, III
<u>MEX</u> UN-No Proper Shipping Name Hazard class	UN3077 Environmentally hazardous substance, solid, n.o.s. 9

Special Provisions	274, 331, 335
Packing Group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s., 9, III
ICAO (air)	UN3077
UN-No:	Environmentally hazardous substance, solid, n.o.s.
Proper Shipping Name:	9
Hazard class	III
Packing Group:	A158, A97, A179, A197
Special Provisions	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate),
Description:	9, III
IATA	UN3077
UN number	Environmentally hazardous substance, solid, n.o.s.
Proper Shipping Name:	9
Transport hazard class(es)	III
Packing group	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate),
Description:	9, III
IMDG	UN3077
UN number	Environmentally hazardous substance, solid, n.o.s.
Proper shipping name	9
Transport hazard class(es)	III
Packing group	F-A, S-F
EmS-No	274, 335, 966, 967, 969
Special Provisions	P
Marine pollutant	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate),
Description	9, III, Marine pollutant
<u>RID</u>	UN3077
UN number	Environmentally hazardous substance, solid, n.o.s.
Proper Shipping Name:	9
Transport hazard class(es)	III
Packing group	M7
Classification code	274, 335, 375, 601
Special Provisions	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate),
Description:	9, III
Labels	9
ADR UN number Proper Shipping Name: Transport hazard class(es) Packing group Classification code Special Provisions Description: Labels	3077 Environmentally hazardous substance, solid, n.o.s. 9 III M7 274, 335, 601, 375 3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate), 9, III 9
ADN	UN3077
UN/ID No	Environmentally hazardous substance, solid, n.o.s.
Proper shipping name	9
Transport hazard class(es)	III
Packing Group	M7
Classification code	274, 335, 601
Special Provisions	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc Sulfate, mnohydrate),
Description	9, III
Hazard label(s)	9
Limited quantity (LQ)	5 kg
Equipment Requirements	A, PP

15. Regulatory information

International Inventories

TSCA

Complies

DSL/NDSL	Complies
EINECS/ELINCS	Does not Comply
ENCS	This product complies with ENCS:
IECSC	This product complies with China:
KECL	Does not Comply
PICCS	Complies
AICS	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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Zinc Sulfate, mnohydrate - 7446-19-7	1.0

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 STEL (Short Term Exposure Limit) TWA TWA (time-weighted average) STEL Maximum limit value Ceiling 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 15-June-2021 **Revision date Revision Note** 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
Z1100	Zinc Sulfate, Monohydrate, FCC

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,

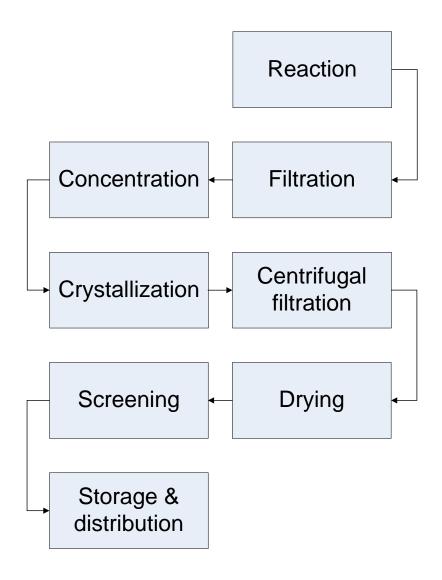
Oulu Umy

Oralia Chavez Quality Assurance Specialist



Manufacturing Process Flowchart

Zinc Sulfate, Monohydrate, FCC - Z1100



Spectrum Chemical Mfg Corp

Corporate Headquarters: 769 Jersey Ave. New Brunswick, NJ 08901 732.214.1300

West Coast Facility: 14422 S. San Pedro St. Gardena, CA 90248 310.516.8000

spectrum®

Z1100, Zinc Sulfate, Monohydrate, FCC

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
- Celery
- Mustard
- Sesame Seed
- Corn
- Latex
- 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 36 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

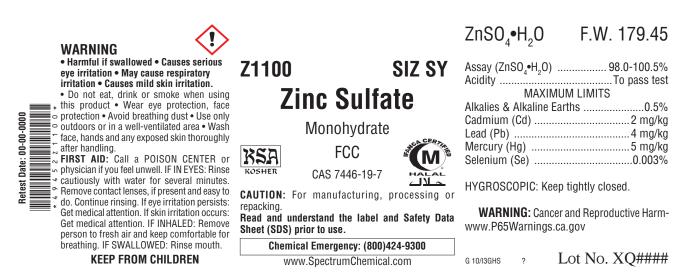
- Parabens
- Pesticides
- Phthalates
- Preservatives

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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.

z1100 03/18/2019 gm



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



בס"ד Jan 30, 2024

The following product(s) prepared by the named company are certified kosher with the stated requirements:

Spectrum Laboratory Products, Inc.

S-0032

14422 South San Pedro Street, Gardena, CA 90248 755-769 Jersey Ave. New Brunswick NJ 08901 USA	Product Name Brand UKD-ID D/P/M	Z1100, Zinc Sulfate, Monohydrate, FCC Spectrum KSAV3-Q5K2H79 P
	Symbol Required	KSA
This certificate expires on Feb 01, 2025	Special Conditions	

Rabbi Binyomin Lisbon Kashrus Administrator

Placing the KSA logo on products not listed above constitutes an un-authorized use of the KSA symbol, which is a federally registered trademark.