# Scientific Documentation

## CO137, Hydrocortisone, Micronized, USP

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

Ver4.05 18.August.2020

**CO137,** Hydrocortisone, Micronized, USP

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# Specification for Hydrocortisone, Micronized, USP (CO137)

| | |
|---|---|
| Item Number | CO137 |
| Item | Hydrocortisone, Micronized, USP |
| CAS Number | 50-23-7 |
| Molecular Formula | $C_{21}H_{30}O_5$ |
| Molecular Weight | 362.46 |
| MDL Number | |
| Synonyms | Compound F ; Cortisol ; HC ; 17-Hydroxycorticosterone ; 11Beta,17alpha,21-Trihydroxypregn- |

| Test | Specification | |
|---|---|---|
| | Min | Max |
| ASSAY (DRIED BASIS) | 97.0 | 102.0 % |
| SPECIFIC ROTATION [a]D25 | +150° to +156° | |
| PARTICLE SIZE (THROUGH 15 micron) | 90 % | |
| LOSS ON DRYING | | 1.0 % |
| RESIDUE ON IGNITION | | 0.5 % |
| ORGANIC IMPURITIES | TO PASS TEST | |
| ELEMENTAL IMPURITIES | AS REPORTED | |
| IDENTIFICATION | TO PASS TEST | |
| RETEST DATE | | |
| DATE OF MANUFACTURE | | |
| APPEARANCE | | |
| RESIDUAL SOLVENTS | TO PASS TEST | |


***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

# Certificate Of Analysis

| | | | |
|---|---|---|---|
| Item Number | CO137 | Lot Number | 1ID0638 |
| Item | Hydrocortisone, Micronized, USP | Manufacturer Lot | TA0092 |
| CAS Number | 50-23-7 | Manufacturer Code | 14777 |
| Molecular Formula | $C_{21}H_{30}O_5$ | Molecular Weight | 362.46 |

| Test | Specification | | Result |
|---|---|---|---|
| | min | max | |
| ASSAY (DRIED BASIS) | 97.0 | 102.0 % | 100.0 % |
| SPECIFIC ROTATION [a]D25 | +150° to +156° | | +153° |
| PARTICLE SIZE (THROUGH 15 micron) | 90 % | | 99.5 % |
| LOSS ON DRYING | | 1.0 % | 0.1 % |
| RESIDUE ON IGNITION | | 0.5 % | 0.0 % |
| ORGANIC IMPURITIES | TO PASS TEST | | PASSES TEST |
| ELEMENTAL IMPURITIES | AS REPORTED | | COMPLIES WITH STANDARD |
| IDENTIFICATION | TO PASS TEST | | PASSES TEST |
| RETEST DATE | | | 20-DEC-2021 |
| DATE OF MANUFACTURE | | | 21-DEC-2018 |
| APPEARANCE | | | WHITE POWDER |
| RESIDUAL SOLVENTS | TO PASS TEST | | PASSES TEST |
| CLASS 2 (SOLVENT) / METHANOL | | | <3000 ppm |
| CLASS 2 (solvent) / METHYLENE CHLORIDE | | | <600ppm |
| CLASS 2 (solvent) / N,N-DIMETHYLFORMAMIDE | | | <880 ppm |
| CLASS 3 (solvent) / ACETONE | | | <5000 ppm |
| CLASS 3 (solvent) / ETHANOL | | | <5000 ppm |

Spectrum Chemical Mfg Corp
14422 South San Pedro Street
Gardena 90248 CA

Certificate of Analysis Results Certified by:

Himanshu Patel
Quality Control Manager
Spectrum Chemicals & Laboratory Products

**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.**

The Elemental Impurities standards implemented by USP and other Pharmaceutical Compendia reflect a growing understanding of the toxicology of trace levels of elemental impurities that can remain in drug substances originating from either raw materials or manufacturing processes. Identifying and quantifying impurities can be critical to predicting the best possible patient outcomes. Elemental Impurities has been a requirement of all products meeting USP/NF, EP and BP monographs since January 1, 2018. More information can be found in USP sections <232> Elemental Impurities – Limits and <233> Elemental Impurities – Procedures. Data for drug substances furnished by Spectrum Chemical Mfg. Corp can be used to ensure that patient daily exposures by oral administration to the selected elements are not exceeded in the formulation of pharmaceutical products.

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 Tianjin Jinjin Pharmaceutical Co., Ltd. at No.8 of Jingfu Road, Industrial Zone of Zhangjiawo Town, Xiqing, Tianjin 300380, China. 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.

# SAFETY DATA SHEET

**Revision date** 25-March-2020 **Revision Number** 2

## 1. Identification

**Product identifier**

**Product Name** HYDROCORTISONE, MICRONIZED, USP

**Other means of identification**

**Product Code(s)** CO137

**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**

| | |
|---|---|
| Reproductive toxicity | Category 2 |

**Hazards not otherwise classified (HNOC)**
Not applicable

**Label elements**

**Warning**

**Hazard statements**
Suspected of damaging fertility or the unborn child

**Appearance** crystalline powder **Physical state** Solid **Odor** Odorless

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other information**
May be harmful if swallowed.

## 3. Composition/information on ingredients

**Substance**

| Chemical name | CAS No | Weight-% | Trade secret |
|---|---|---|---|
| Hydrocortisone | 50-23-7 | 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.

**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** Clean mouth with water and drink afterwards plenty of water.

**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** 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.

**Hazardous combustion products** Carbon Monoxide, Carbon Dioxide.

**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.

**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**

**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. Remove contaminated clothing and shoes.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Store locked up.

## 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<br>Eyewash stations<br>Ventilation systems. |

**Individual protection measures, such as personal protective equipment**

| | |
|---|---|
| **Eye/face protection** | No special protective equipment required. |
| **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** | Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. |

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid |
| **Appearance** | crystalline powder |
| **Color** | white |
| **Odor** | Odorless |
| **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | no data available | None known |
| **Melting point / freezing point** | 217 - 220 °C / 422.6 - 428 °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 limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | no data available | None known |
| **Relative density** | no data available | None known |
| **Water solubility** | No data available | None known |
| **Solubility(ies)** | partially soluble (Water) | None known |
| **Partition coefficient** | 1.61 | None known |
| **Autoignition temperature** | no data available | None known |
| **Decomposition temperature** | | None known |
| **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** | 362.46 |
| **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 normal 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** May be harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

5000

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Hydrocortisone<br>50-23-7 | = 5000 mg/kg ( Rat ) | - | - |

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

**Skin corrosion/irritation** No information available.
**Serious eye damage/eye irritation** No information available.
**Respiratory or skin sensitization** No information available.
**Germ cell mutagenicity** No information available.

**Reproductive toxicity** Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

**STOT - single exposure** No information available.
**STOT - repeated exposure** No information available.
**Aspiration hazard** 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** | No information available. |
| **Bioaccumulation** | 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** | not regulated |
| **TDG** | not regulated |
| **MEX** | not regulated |
| **ICAO (air)** | not regulated |
| **IATA** | not regulated |
| **IMDG** | not regulated |
| **RID** | not regulated |
| **ADR** | not regulated |
| **ADN** | not regulated |

## 15. Regulatory information

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | This product complies with ENCS: |
| **IECSC** | This product complies with China: |
| **KECL** | Complies |
| **PICCS** | Does not Comply |
| **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

Complies

**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** 0
**Flammability** 0
**Instability** 0
**Physical and chemical properties** -
**HMIS**
**Health hazards** * 1
**Flammability** 0
**Physical hazards** 0
**Personal protection** X
*Chronic Hazard Star Legend* ** = Chronic Health Hazard*

**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** | 25-March-2020 |
| **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**

August 18, 2020

**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 |
|---|---|
| CO137 | Hydrocortisone, Micronized, USP |

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: 2020632
Spectrum-New Brunswick, NJ: 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 qualityassurance@spectrumchemical.com

Sincerely,

Oralia Chavez
Quality Assurance Specialist

# **CO137,** Hydrocortisone, Micronized, USP

## Source Statement

The above mentioned catalog item is manufactured by chemical synthesis from starting material of plant origin (soy). No animal 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
- 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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**RE: Elemental Impurities - Hydrocortisone, Micronized, USP (Cat# CO137)**

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 TechServices@spectrumchemical.com.

Sincerely,

Technical Services
Spectrum Chemical Mfg. Corp.

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

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**RE: Residual Solvents - Hydrocortisone, Micronized, USP (Cat# CO137)**

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 |
|---|---|---|
| *N,N*-Dimethylformamide | 2 | < 880 ppm |
| Methanol | 2 | < 3000 ppm |
| Methylene Chloride | 2 | < 600 ppm |
| Acetone | 3 | < 5000 ppm |
| Ethanol | 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 TechServices@spectrumchemical.com.

Sincerely,

Technical Services
Spectrum Chemical Mfg. Corp.

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

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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.

- A Bar Code
- B GHS Hazard Pictograms
- C Warning, Safety Data and Precautionary Information
- D Product Catalog Number
- E Item Name, Form, Grade
- O Storage Color Band
- F Size/Quantity
- G Chemical Abstracts Service (CAS) Registry Number
- H Caution Information
- I DOT Shipping Information
- J Toll-Free 24-Hour Chemical Emergency Telephone Number
- K Empirical Formula, Formula Weight and Technical Specifications Panel
- L Expiration Information
- M Lot Number
- N Kosher Certified by Kosher Supervision of America (KSA).

This color-coded band indicates the hazard most likely to be posed by that material under storage conditions. The criteria used to assign band colors have been established by the Storage Code working group of the Society for Chemical Hazard Communication (SCHC). It is recommended that like colors be stored together, unless otherwise stated, based on the color codes indicated to the right. However, it is the responsibility of the customer to check with their local fire department for possible conflicts with our recommendations when storing hazardous chemicals.

- **YELLOW**: Oxidizer
- **RED**: Flammable
- **GREEN**: General Storage
- **BLUE**: Health Hazard
- **WHITE**: Corrosive


***Spectrum Chemical Mfg Corp***

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May 28, 2020

**RE: Lot Numbering System**

Dear Valued Customer:

This letter is to inform you of Spectrum Chemicals and Laboratory Products' Lot Numbering System. The system is based on an alpha-numerical sequence which provides the month, year and location of production.

The lot numbering system utilized until 2010 is a sequence of **six characters**, two letters followed by four numbers. The first letter represents the year, for example, Y denotes 2009 and Z denotes 2010. The second letter represents the month and site, for example, A-L denotes January through December at Spectrum's Gardena, CA facility, while M-X denotes January through December at the New Brunswick, NJ facility. The following four numbers are sequentially assigned.

**Example**: ZI0928 = The 928$^{th}$ material produced in California in September 2010

The lot numbering system utilized for 2011 and forward, is a sequence of **seven characters**. The first character, a number, represents the production facility:

1 = Gardena, CA Facility
2 = New Brunswick, NJ Facility
3 = China Facility
4 = Pharmacy, NJ Facility

The second character, a letter, represents the year. For example, A denotes 2011 and B denotes 2012. The third character, a letter, represents the month, with A denoting January and L denoting December. The following four numbers are sequentially assigned.

**Example**: 2AA0706 = The 706$^{th}$ material produced in New Jersey in January 2011

Thank you for your interest with Spectrum products. Please feel free to contact us at 310-516-8000 or via email at quality_assurance@spectrumchemical.com if we may be of further assistance.

Sincerely,

Oralia Chavez,
Quality Assurance Specialist

CORPORATE HEADQUARTERS
769 Jersey Avenue
New Brunswick, NJ 08901
PHONE 732.214.1300
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