

# **Scientific Documentation**

# Urea, USP, JP

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 Urea, USP, JP (UR107)

Item Number	UR107
Item	Urea, USP, JP
CAS Number	57-13-6
Molecular Formula	$\mathrm{CH_4N_2O}$
Molecular Weight	60.06
MDL Number	
Synonyms	Carbamide ; Carbonyl Diamide

Test	Specification	
	Min	Max
APPEARANCE		
IDENTIFICATION (A)	SPECTRUM MATCHES REFERENCE	
IDENTIFICATION (B)	RETENTION TIME MATCHES STANDARD	
IDENTIFICATION (C)	RED PURPLE COLOR DEVELOPS	
IDENTIFICATION (D)	WHITE PRECIPITATE FORMS	
ASSAY (USP)	98.0	102.0 %
ASSAY (JP)	99.0	101.0%
MELTING POINT (JP)	132.5°	134.5°C
RESIDUE ON IGNITION		0.1 %
ALCOHOL-INSOLUBLE MATTER		0.04 %
CHLORIDE		0.007 %
SULFATE		0.010 %
ELEMENTAL IMPURITIES	AS REPORTED	
HEAVY METALS (JP)		20 ppm
ORGANIC IMPURITIES:		
UREA RELATED COMPOUND A		0.1 %
INDIVIDUAL IMPURITY		0.1 %
TOTAL IMPURITIES		2.0 %

Test	Specific	ation
	Min	Max
EXPIRATION DATE		
DATE OF MANUFACTURE		
RESIDUAL SOLVENTS		AS REPORTED
MONOGRAPH EDITION		
MONOGRAPH EDITION.		

#### Spectrum Chemical Mfg Corp

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

732.214.1300 310.516.8000



# **Certificate Of Analysis**

Item Number	UR107	Lot Number	1NC0005
Item	Urea, USP, JP	CAS Number	57-13-6
Molecular Formula	CH <sub>4</sub> N <sub>2</sub> O	Molecular Weight	60.06

TEST	SPECIFICATION		RESULT
lesi	MIN	MAX	KESULI
APPEARANCE			WHITE CRYSTALLINE POWDER
IDENTIFICATION (A)	SPECTRUM MATCHES REFERENCE		SPECTRUM MATCHES REFERENCE
IDENTIFICATION (B)	RETENTION TIME MATCHES STANDARD		RETENTION TIME MATCHES STANDARD
IDENTIFICATION (C)	RED PURPLE COLOR DEVELOPS		RED PURPLE COLOR DEVELOPS
IDENTIFICATION (D)	WHITE PRECIPITATE FORMS		WHITE PRECIPITATE FORMS
ASSAY (USP)	98.0	102.0 %	100.1 %
ASSAY (JP)	99.0	101.0%	100.0 %
MELTING POINT (JP)	132.5°	134.5°C	133.9°C
RESIDUE ON IGNITION		0.1 %	<0.01 %
ALCOHOL-INSOLUBLE MATTER		0.04 %	<0.04 %
CHLORIDE		0.007 %	<0.007 %
SULFATE		0.010 %	<0.01 %
ELEMENTAL IMPURITIES	AS REPORTED		COMPLIES WITH STANDARD
HEAVY METALS (JP)		20 ppm	<10 ppm
ORGANIC IMPURITIES:			
UREA RELATED COMPOUND A		0.1 %	<0.1 %
INDIVIDUAL IMPURITY		0.1 %	<0.1 %
TOTAL IMPURITIES		2.0 %	<2.0 %
EXPIRATION DATE			31-AUG-2027

TECT	SPECIFICATION		DECLUIT.	
TEST	MIN	MAX	RESULT	
DATE OF MANUFACTURE			14-AUG-2022	
RESIDUAL SOLVENTS		AS REPORTED	NO RESIDUAL SOLVENTS PRESENT	
MONOGRAPH EDITION			(USP-NF) 2023	
MONOGRAPH EDITION.			(JP) 18	

Certificate of Analysis Results Entered By:

HBERMUDEZ Hernan Bermudez 13-MAR-24 17:54:48

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



Certificate of Analysis Results Approved By:

AMENDEZ Ana Mendez 14-MAR-24 08:48:51

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.

# SAFETY DATA SHEET SPECTRUM®



Revision date 08-March-2022

Revision Number 2

#### 1. Identification

**Product identifier** 

Product Name UREA, USP, JP

Other means of identification

Product Code(s) UR107

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

Serious eye damage/eye irritation Category 2B

#### Hazards not otherwise classified (HNOC)

Not applicable

#### Label elements

Warning

#### Hazard statements

Causes eye irritation

Appearance Crystalline powder Crystals Physical state Solid Odor Slight

or

#### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

#### **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

#### Other information

Causes mild skin irritation.

#### 3. Composition/information on ingredients

#### Substance

Chemical name	CAS No	Weight-%	Trade secret
Urea	57-13-6	100	*

<sup>\*</sup>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 immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Get medical attention if irritation develops and persists.

Remove contact lenses, if present and easy to do. Continue rinsing.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

#### Most important symptoms and effects, both acute and delayed

**Symptoms** Prolonged contact may cause redness and irritation.

#### Indication of any immediate medical attention and special treatment needed

#### 5. Fire-fighting measures

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 Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information 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

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

#### 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 as personal protective equipment

**Eye/face protection** None required for consumer use. 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.

#### 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid

**Appearance** Crystalline powder Crystals or

White; Colorless Color

Odor Slight

**Odor threshold** No information available

Property Values Remarks • Method

no data available pН None known 132 - 135 °C / 269.6 - 275 °F None known Melting point / freezing point Boiling point / boiling range None known no data available no data available None known Flash point **Evaporation rate** None known no data available 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 2.07 None known 1.323 Relative density None known Water solubility Soluble in water None known Soluble in Methanol Solubility(ies) None known

Soluble in Acetic acid Insoluble in Ether Insoluble in Chloroform Insoluble in Benzene

None known

Partition coefficient -2.1

**Autoignition temperature** no data available None known None known

**Decomposition temperature** 

Kinematic viscosity no data available None known Dynamic viscosity No data available None known

Other information

No information available **Explosive properties Oxidizing properties** No information available Softening point No information available

Molecular weight 60.06

**VOC Content (%)** No information available **Liquid Density** No information available **Bulk density** No information available

#### 10. Stability and reactivity

No information available. Reactivity

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid None known based on information supplied.

None known based on information supplied. Incompatible materials

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. Causes eye irritation. May

cause redness, itching, and pain.

Specific test data for the substance or mixture is not available. Causes mild skin irritation. Skin contact

Specific test data for the substance or mixture is not available. Ingestion

Symptoms related to the physical, 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** 

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Urea	= 8471 mg/kg (Rat)	-	-
57-13-6			

Classification based on data available for ingredients. Irritating to eyes.

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

May cause skin irritation. Classification based on data available for ingredients. Skin corrosion/irritation

Serious eye damage/eye irritation Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

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** 

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Urea	-	LC50: 16200 -	-	EC50: =3910mg/L (48h,
57-13-6		18300mg/L (96h, Poecilia		Daphnia magna) EC50:
		reticulata)		>10000mg/L (24h,
		·		Daphnia magna Straus)

Persistence and degradability Bioaccumulation

No information available. Inherently biodegradable.

**Component Information** 

Chemical name	Partition coefficient	
Urea	-1.59	

57-13-6

Other adverse effects No information available.

#### 13. Disposal considerations

#### Waste treatment methods

products

Waste from residues/unused

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** 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 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 08-March-2022

**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** 



# 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
UR107	Urea, USP, JP

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

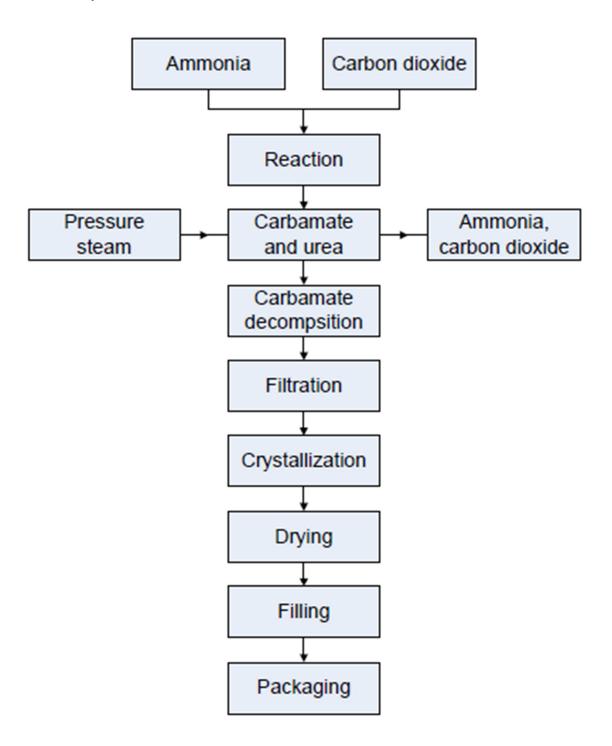
Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at qualityassurance@spectrumchemical.com

Sincerely,
Quality Assurance
Spectrum Chemical Mfg. Corp.

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



Manufacturing Process Flowchart - Urea, USP, JP (Catalog No. UR107)





## UR107, Urea, USP, JP

#### 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 the above-mentioned 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



# Elemental Impurities - Urea, USP, JP (Catalog No. UR107)

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above 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 the 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.



# Residual Solvents - Urea, USP, JP (Catalog No. UR107)

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. No Class 1, Class 2, Class 3 or other solvents are used or produced in the manufacture of this product.

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.



#### **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.

 Causes eye irritation
 Causes mild skin irritation. Wash face, hands and any exposed skin thoroughly after handling. FIRST AID: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, 🕽 if present and easy to do. Continue rinsing. If eve irritation persists: Get

WARNING

0000-00-00

medical attention. If skin irritation **KEEP FROM CHILDREN** 

occurs: Get medical attention.

**UR107** 

SIZ SY

Not sterile

CH<sub>4</sub>N<sub>2</sub>O

F.W. 60.06

..0.1% ..2.0%

Urea

(Carbamide; Carbonyl Diamide)

USP, JP

CAS 57-13-6

CAUTION: For manufacturing, processing or repacking.

Read and understand the label and Safety Data Sheet (SDS) prior to use.

Chemical Emergency: (800)424-9300

www.SpectrumChemical.com

Assay (USP). .98.0-102.0% Assay (JP).... Melting Point (JP)... MAXIMUM LIMITS Residue on Ignition. ..0.1% Alcohol-Insoluble Matter. Chloride 0.007% Sulfata ..0.010% Elemental Impurities Heavy Metals (JP). .20 ppm Organic Impurities: Urea Related Compound A.

Total Impurities. Residual Solvents WARNING: Cancer and Reproductive Harmwww.P65Warnings.ca.gov

Any Individual Unspecified Impurity

Lot No. XQ#### G 25/K9GHS

#### Spectrum Chemical Mfg Corp

Corporate Headquarters: 769 Jersey Ave.

New Brunswick, NJ 08901

732.214.1300

14422 S. San Pedro St. Gardena, CA 90248

310.516.8000