

SAFETY DATA SHEETS

This SDS packet was issued with item:

078081590

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078025851 078936161 078949226

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

078817942

MATERIAL SAFETY DATA SHEET

--
Vet-A-Mix,
A Division of LLOYD, Inc.
Phone No. (712) 246-4000
Page 1 of 2

P.O. Box 130, Shenandoah, IA 51601-0130

Geri-Form Tablets
MSDS Date: 2/19/93 (Original)
12/19/95; 6/28/06 (Revised)

Product Name: Geri-Form Tablets

1. INGREDIENTS: (% w/w), unless otherwise noted

COMPONENT	CAS#	%	EXPOSURE LIMITS, ppm	
			OSHA PEL	ACGIH TLV (mg/m ³)
----- Not Applicable -----				

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Only those ingredients composing $\geq 1\%$ ($\geq 0.1\%$ for carcinogens or suspect carcinogens) of the formula (w/w) and which have hazards identified are listed.

2. PHYSICAL DATA:

APPEARANCE: Golden, elliptical tablet.
Other physical data have not been determined.

3. FIRE AND EXPLOSION HAZARD DATA:

This has not been evaluated.

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO₂, dry chemical.

4. REACTIVITY DATA:

This has not been evaluated. The product is expected to be stable under normal storage conditions; avoid strong oxidizers.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Sweep up and dispose of in DOT-approved waste containers. Keep out of sewers, storm drains, surface waters and soil.

DISPOSAL METHOD: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures.

6. HEALTH HAZARD DATA:

EYE: This product is not expected to irritate the eyes under normal conditions of use.

SKIN CONTACT: This product is not expected to irritate the skin under normal conditions of use.

INGESTION: This has not been evaluated.

INHALATION: Inhalation exposure under normal conditions of use is not likely to cause adverse effects.

MATERIAL SAFETY DATA SHEET

--

**Vet-A-Mix,
A Division of LLOYD, Inc.**

Phone No. (712) 246-4000

Page 2 of 2

P.O. Box 130, Shenandoah, IA 51601-0130

Geri-Form Tablets

MSDS Date: 2/19/93 (Original)

12/19/95; 6/28/06 (Revised)

7. FIRST AID:

EYES: Immediately flush eyes with copious amounts of running water for 15 minutes.

SKIN: Wash with soap and water.

INGESTION: SEEK MEDICAL ATTENTION IMMEDIATELY. Treatment is by gastric lavage or emesis.

INHALATION: If a person has been exposed to excessive quantities of dust due to mishaps, move the person to fresh air. Give artificial respiration if not breathing.

Seek medical attention immediately if excessive exposure occurs.

8. HANDLING PRECAUTIONS:

There is no OSHA PEL or ACGIH TLV for this product. Under normal conditions of use, no special handling precautions are required in areas with adequate ventilation. However, under conditions of prolonged exposure in which quantities of dust are generated, mechanical ventilation, safety glasses with side shields, gloves and a NIOSH approved dust respirator are recommended.

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Exercise reasonable care and caution.

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSDS for health and safety information.

U.S. REGULATIONS: SARA HAZARD CATEGORY: This product has been reviewed according to the federal EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to be exempt from reporting requirements. Nevertheless, potential reporters should check with their state emergency response commissions to determine if this product must be reported under applicable state requirements.

MATERIAL SAFETY DATA SHEET

CEFAZOLIN FOR INJECTION, MSDS

Date Printed: May 2008
Date Updated: Dec 2008

SECTION 1. PRODUCT AND COMPANY INFORMATION

Product Name: Cefazolin for Injection, USP
Supplier: West-Ward Injectables Inc.
200 Industrial Way West,
Eatontown, NJ 07724
Phone (732 542 1191)
Fax (732 720 6220)

Technical Phone: (800 631 2174)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Description	Amount
27164-46-1	Cefazolin Sodium	500mg, 1g, 10g vials

Category: Anti-Infective

SECTION 3. HAZARDS IDENTIFICATION, EMERGENCY OVERVIEW

Route of Entry: Inhalation, eye/skin contact, or ingestion

Chemical List as
Carcinogen:

NTP: No
IARC: No
OSHA: No

Note: May cause hypersensitivity reactions to individuals sensitive to cephalosporins, penicillins, or other drugs.

SECTION 4. FIRST AID MEASURES

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek medical attention

Skin: Remove contaminated clothing immediately. Flush area with water for at least 15 minutes. Seek medical attention as needed.

Inhalation: Move exposed subject to well ventilated area immediately. Give artificial and cardiopulmonary resuscitation (CPR) if required. Seek medical attention.

Ingestion: Flush mouth with water immediately. Seek medical attention



SECTION 5. FIRE AND EXPLOSION DATA

Fire and explosion Data

Closed Cup Flash Point:	N/A
Open Cup Flash Point	N/A
Fire Point:	N/A
Autoignition:	N/A
Lower Explosion Limit:	N/A
General Hazard:	When heated to decomposition it emits very toxic fumes of NO, Na ₂ O and SO.
Fire Fighting Instructions:	Water spray, dry chemical, or foam as appropriate. Carbon dioxide extinguishers may be ineffective.
Fire Fighting Equipment:	Wear self-containing breathing apparatus and protective clothing.
Hazardous Combustion Products:	Toxic fumes of NO _x , Na ₂ O and SO _x .

SECTION 6. ACCIDENTAL RELEASE MEASURES

Clean Up: Wear recommended personal protective equipment. Use appropriate absorbent material to clean affected area. Wipe area with soap and water. Dispose of materials according to the applicable federal, state and/ or local regulations.

SECTION 7. HANDLING AND STORAGE

General Handling: When handling pharmaceutical products, avoid all contact and inhalation of dust, fumes, mist, and/ or vapors associated with product.

Storage Conditions: Store at controlled room temperature 20° - 25°C (68° - 77°F). Protect from light and excessive heat. [see USP Controlled Room Temperature].

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: General room ventilation is usually satisfactory. Use Local exhaust ventilation if necessary.

Personal Protective Equipment

Eye protection: Safety glasses or goggles recommended.

Hand protection: Latex rubber gloves recommended.

Respiratory Protection: With satisfactory ventilation, respirators are not required.

Exposure Limits:

Compound	Issuer	Type	OEL
Cefazolin Sodium	OSHA	PEL	NE
	ACGIH	TLV	NE
	...	STEL	NE



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form/ Appearance:	Yellowish-white odorless, crystalline powder.		
Boiling Point/ Boiling Range:	N/A		
Melting Point/ Melting Range:	198°C - 200°C		
Freezing Point:	N/A		
Vapor Pressure:	N/A		
Relative Vapor Density:	N/A		
Percent Volatiles:	N/A		
pH:	4.6 - 6.0		
Molecular Weight:		476.52	
Solvent Solubility:	Freely soluble in water.		

SECTION 10. STABILITY AND REACTIVITY DATA.

Stability:	Stable
Conditions to Avoid:	Avoid direct sunlight and conditions that might heat and cause dispersion as aerosol. Avoid storage next to strong oxidizers.
Hazardous Polymerization:	Will not occur

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Compound	Type	Route	Species	Dosage
Cefazolin Sodium	LD50	IV	Rat	2760 mg/kg

Other: IMMEDIATE EFFECTS:

Eye, skin and respiratory irritation may occur.

DELAYED EFFECTS:

Hypersensitivity reactions ranging from mild to life-threatening may occur in individuals allergic to the cephalosporin and penicillin groups.

SECTION 12. ECOLOGICAL INFORMATION

Information is currently not available on the environmental impact of Cefazolin. Handle in a manner to prevent spills or releases to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of by incineration at an approved /permitted incinerator. Review local, state, and federal regulations for your regulatory area.



SECTION 14. TRANSPORT INFORMATION

UN/NA Number: N/A

US DOT Hazard Class: N/A

Proper Shipping Name: N/A

Shipping Label: N/A

SECTION 15. REGULATORY INFORMATION

U.S. Regulatory Information: not regulated.

SECTION 16. OTHER INFORMATION

This documented has been generated to distribute health, safety and environmental data. It is not a specification sheet and none of the displayed data should be construed as a specification. We do not assume any responsibility and expressly disclaim any liability for any loss, damage, or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

SAFETY DATA SHEET


Cefazolin for Injection, USP



Section 1. Identification

GHS product identifier	: Cefazolin for Injection, USP
Chemical name	: Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate
Synonyms	: Cefazolin Sodium; 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, monosodium salt, (6R-trans)-; Cephazolin sodium; 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((5-methyl-1,3,4-thiadiazol-2-yl)thio)methyl)-8-oxo-7-(((1H-tetrazol-1-yl)acetyl)amino)-, (6R-trans)-, sodium salt; (6R,7R)-3-[[[(5-Methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-[[2-(1H-tetrazol-1-yl)acetyl]amino]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid sodium salt (1:1)
Product code	: NDC 0143-9923-90 NDC 0143-9924-90 NDC 0143-9983-03 NDC 0143-9983-91
Chemical family	: Not available.
Product type	: Not available.
Container information	: Not available.
Identified uses	: Anti-Infective.
Supplier's details	: West-Ward Pharmaceuticals 401 Industrial Way Eatontown NJ 07724 Phone (732 542 1191) Fax (732 720 6220)
Emergency telephone number (with hours of operation)	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 24/7

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1
GHS label elements	
Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 - May cause an allergic skin reaction.
Precautionary statements	



Section 2. Hazards identification

Prevention	: P280 - Wear protective gloves. P284 - Wear respiratory protection. P261 - Avoid breathing dust. P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.
Response	: P304 + P341 (OSHA) - IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician. P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
Hazards not otherwise classified (HNOC)	: Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture	: Substance
Chemical name	: Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate
Other means of identification	: Cefazolin Sodium; 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, monosodium salt, (6R-trans)-; Cephalosporin sodium; 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, (6R-trans)-, sodium salt; (6R,7R)-3-[[[(5-Methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-[[2-(1H-tetrazol-1-yl)acetyl]amino]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid sodium salt (1:1)

CAS number/other identifiers

CAS number	: 27164-46-1
Product code	: NDC 0143-9923-90 NDC 0143-9924-90 NDC 0143-9983-03 NDC 0143-9983-91

Ingredient name	%	CAS number
Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate	60 - 100	27164-46-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No known significant effects or critical hazards.

Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

- Special protective actions for fire-fighters** : No special measures are required.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up



Section 6. Accidental release measures

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : In some cases, dust collection, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Crystalline powder.]
- Color** : Yellowish / white.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 4.6 to 6 [Conc. (% w/w): 1%]
- Melting point** : 198 to 200°C (388.4 to 392°F)
- Boiling point** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Freely soluble in water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Not available.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate	LD50 Oral	Rat	>11 g/kg	-

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Section 11. Toxicological information

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Potential chronic health effects

- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate	Acute EC50 >1000 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Chronic NOEC >1000 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Section 14. Transport information

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): Not determined.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sodium (6R-trans)-3-[[[(5-methyl-1,3,4-thiadiazol-2-yl)thio]methyl]-8-oxo-7-(1H-tetrazol-1-ylacetamido)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate	60 - 100	No.	No.	No.	Yes.	No.

SARA 313

No products were found.

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Section 15. Regulatory information

Pennsylvania : This material is not listed.

California Prop. 65

No products were found.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 08/15/2015

Version : 1

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations

: ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.