6-AMINOPENICILLANIC ACID

SAFETY DATA SHEET

Revision Date 2016-02-18

1. IDENTIFICATION

Product Identifier	6-Aminopenicillanic acid
Product Number	A089
Distributor Name	TOKU-E Company
Distributor Address	715 W Orchard Dr. Suite 3 Bellingham, WA 98225
Phone Number	(360)734-1789
Emergency Phone Number (International)	+1 (352) 353-3500
Emergency Phone Number (US Only)	1 (800) 535-5053
Safety Data Sheet Issued by	TOKU-E USA
CAS-Number	[551-16-6]
EC/ REACH Number	[208-993-4]
Recommended Use	6-aminopenicillanic acid can be used as a a starting material to synthesize penicillin antibiotics.
Restrictions of USE	Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification

Acute oral toxicity (Category 4)
Respiratory sensitization (Category 1)
Skin sensitization (Category 1)

GHS Label Elements, Including

Signal Word: Danger

Hazard Statements

H317	May Cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements

P261	Avoid breating dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse
P285	In case of inadequate ventilation wear respiratory protection
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in
P304... (cont)	a position comfortable for breathing.
P342+P311	IF experiencing respiratory symptoms: call a POISON CENTER or
P342... (cont)	doctor/physician.
P501	Dispose of contents/container to proper waste container

Hazards not otherwise classified (HNOC) by GHS	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)	6-APA 6-APS Penicin Penin Phenacyl 6-aminopenicillinate
Formula	$C_8H_{12}N_2O_3S$
Molecular Weight	216.26 g/mol
CAS-Number	[551-16-6]
EC/ REACH Number	[208-993-4]
Hazardous Components	6-Aminopenicillanic acid Acute oral toxicity (Category 4) Respiratory sensitization (Category 1) Skin sensitization (Category 1)

4. FIRST-AID MEASURES

General Advice	Consult a physician. Show this Safety Data Sheet to the medical provider
If Inhaled	If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a doctor
In Case of Skin Contact	Wash thoroughly with plenty of soap and water. Consult a physician
In Case of Eye Contact	Wash thoroughly with plenty of water for at least 15 minutes
If Swallowed	Never give anything by mouth to an unconscious person. Consult a doctor. Rinse mouth with water.
More important symptoms and effects, both acute and delayed indication of any immediate medical attention and special treatment needed	Please see Section 2 and/or Section 11

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
Special Protective Equipment for Firefighters	Wear self-contained breathing apparatus
Hazardous Combustion Products	Formed under fire conditions: Carbon and Nitrogen oxides, Hydrogen sulfide, Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

General	Evacuate personnel to safe location
Personal Precautions	Wear respiratory protection. Avoid dust formation and breathing vapors/mist/dust/gas. Ensure adequate ventilation
Environmental Precautions	Prevent spillage, do not let product enter drains

	Place in suitable, closed containers for licensed disposal. Avoid dust formation

7. HANDLING AND STORAGE

Precautions for Safe Handling	Avoid contact with skin and eyes. Provide exhaust ventilation in areas where dust if formed
Precautions for Safe Storage	Keep container tightly closed and in a dry, well-ventilated place. Recommended storage temperature: 2-8°C
Incompatibilities	None known

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Contains no substances with occupational exposure limit values

PPE: Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
PPE: Hand Protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
PPE: Skin and Body Protection	Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

9. PHYSICAL/CHEMICAL PROPERTIES

Appearance	White or almost white crystalline powder
pH	3.5-4.5
Melting Point/Freezing Point	No Data Available
Boiling Point	No Data Available
Flash Point	No Data Available
Ignition Temperature	No Data Available
Auto-Ignition Temperature	No Data Available

Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Vapor Pressure	No Data Available
Density	No Data Available
Water Solubility	No Data Available
Solubility in Other Solvents	No Data Available
Partition Coefficient: n-octanol/water	No Data Available
Optical Rotation	+265.0° - +285.0°
Absorbance (425nm)	Less than 0.025
Water Content (Loss on Drying)	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Possibility of Hazardous Reactions	No Data Available
Conditions to Avoid	No Data Available
Materials to Avoid	Strong oxidizing agents
Hazardous Decomposition Products	Carbon and Nitrogen oxides, Hydrogen sulfide

11. TOXICOLOGICAL INFORMATION

Oral LD_{50}	No Data Available
Inhalation LC_{50}	No Data Available
Dermal LD_{50}	No Data Available
Intraperitoneal LD_{50}	>1000 mg/kg
Intravenous LD_{50}	No Data Available
Subcutaneous LD_{50}	No Data Available
Skin Corrosion/Irritation	No Data Available
Serious Eye Damage/ Eye Irritation	No Data Available
Respiratory or Skin Sensitization	No Data Available
Germ Cell Mutagenicity	No Data Available
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive Toxicity	No Data Available
Specific Target Organ Toxicity: Single Exposure (Globally Harmonized System)	No Data Available
Specific Target Organ Toxicity: Repeated	No Data Available

Exposure (Globally Harmonized System)	
Aspiration Hazard	No Data Available
Potential Heath Effects	See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure	No Data Available β-lactams are a broad class of antibiotics and include penicillins and cephalosporins. Some individuals experience adverse immunological responses or allergic reactions to β-lactam antibiotics. Because of the similarity in structure between penicillins and cephalosporins, those who are allergic to one class of agents may manifest cross -allergenicity when exposed to a member of another class. TOKU-E Company assumes this chemical has the potential to induce an allergic reaction in some individuals. To the best of our knowledge, the correlation between this specific material and respiratory or skin sensitization has not been thoroughly investigated.
Synergistic Effects	No Data Available
Additional Information	No Data Available

12. ECOLOGICAL INFORMATION

Toxicity	No Data Available
Persistence and Degradability	No Data Available
Bio accumulative Potential	No Data Available
Mobility in Soil	No Data Available
PBT and vPvB Assessment	No Data Available

13. DISPOSAL CONCENTRATIONS

Product	Dispose of product through a licensed disposal company
Contaminated Packaging	Dispose of as unused product

14. TRANSPORTATION INFORMATION

DOT (US)	Not Dangerous Goods
IMDG	Not Dangerous Goods
IATA	Not Dangerous Goods

15. REGULATORY INFORMATION

Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know Components	6-Aminopenicillanic acid CAS-No. [551-16-6]
New Jersey Right to Know Components	6-Aminopenicillanic acid CAS-No. [551-16-6]
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause birth defects, cancer, or any other reproductive harm
EU Information	SDS in accordance with REACH 1907/2006 EC/ REACH Number [208-993-4] CAS-Number [551-16-6] Name: 6-Aminopenicillanic acid Envisaged Registration Deadline: 30/11/2010 See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION

Revision Date: 2016-02-18

Full text of H-Statements referred to under sections 2 and 3.

HMIS Rating	Health Hazard	0
	Chronic Health Hazard	0
	Flammability	0
	Physical Hazard	0
NFPA Rating	Health Hazard	0
	Fire Hazard	0
	Reactivity Hazard	0

Further information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. TOKU-E Company shall not be held liable for any damage resulting from handling or from contact with the above product. Please see reverse side of invoice or packing slip for additional terms and conditions of sale.