Briti Scientific®
An ISO 9001:2015 and ISO/IEC 17025:2017 Certified Company.

MATERIAL SAFETY DATA SHEET

www.britiscientific.com **Issue Date:**

1- Chemical Product Information and Company Identification.

Product Name: Pyridine GC reference standard, AnStan®.
Product code: BS11234.
Synonym: Azabenzene.
CAS Number: 110-86-1
Company Name: Briti Scientific.
Company Address: 102, Allanki residency, Indira Nagar, Gajularamaram, Hyderabad, Telangana-500055, India.

Section 2- Composition / Information on Ingredients.

CAS No.	Mol.wt	Chemical Name	Mol. Formula
110-86-1	79.10 g/mol	Azabenzene.	C_5H_5N.

Section 3- Hazards Identification.

Emergency Overview

OSHA Hazards

Flammable liquid, Harmful by ingestion., Harmful by skin absorption., Carcinogen

Target Organs

Kidney, Liver, Bone marrow, Nerves.

GHS Classification

Flammable liquids (Category 2)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Skin irritation (Category 3)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour
H302 + H312	Harmful if swallowed or in contact with skin
H316	Causes mild skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H402	Harmful to aquatic life.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	3
Physical hazards:	0

NFPA Rating

Health hazard:	2
Fire:	3
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

Section 4- First Aid Measures.

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5- Fire Fighting Measures.

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

Further information

Use water spray to cool unopened containers.

Section 6- Accidental Release Measures.

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Section 7- Handling and Storage.

Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas.

Section 8- Exposure Control/Personal Protection.

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Pyridine	110-86-1	TWA	1 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Liver & kidney damage Skin irritation Confirmed animal carcinogen with unknown relevance to humans			
		TWA	5 ppm 15 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	5 ppm 15 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		
		TWA	5 ppm 15 mg/m3	USA. NIOSH Recommended Exposure Limits

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands

Splash protection
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 219 min
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection Tightly fitting safety goggles

Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

Section 9- Physical and Chemical Properties.

Information on basic physical and chemical properties

Appearance	Form: liquid
	Color: colorless

Safety data

pH	8.5 at 15.82 g/l at 25 °C (77 °F)
Melting point/freezing point	Melting point/range: -42 °C (-44 °F) - lit.
Boiling point	115 °C (239 °F) - lit.
Flash point	17.0 °C (62.6 °F) - closed cup
Ignition temperature	482 °C (900 °F)
Auto-ignition temperature	482.0 °C (899.6 °F)
Lower explosion limit	1.8 %(V)
Upper explosion limit	12.4 %(V)
Vapour pressure	13.3 hPa (10.0 mmHg) at 13.2 °C (55.8 °F)
	26.7 hPa (20.0 mmHg) at 25.0 °C (77.0 °F)
Density	0.978 g/cm3 at 25 °C (77 °F)
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: 0.65

Relative vapor density	no data available
Odour	unpleasant
Odour Threshold	no data available
Evaporation rate	no data available

Section 10- Stability and Reactivity.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid

Strong oxidizing agents, Strong acids

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx) Other decomposition products - no data available

Section 11- Toxicological Information.

Information on toxicological effects

Acute toxicity

Oral LD50

LD50 Oral - rat - 891.0 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Ptosis. Behavioral: Somnolence (general depressed activity). Behavioral: Coma.

Inhalation LC50

LC50 Inhalation - rat - 1 h - 28,500 mg/m3 Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Dyspnea.

Dermal LD50

LD50 Dermal - rabbit - 1,121 mg/kg Remarks: Behavioral: Ataxia. Gastrointestinal: Changes in structure or function of salivary glands. Liver:Other changes.

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Pyridine)
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.
Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Dizziness, tachycardia, nervousness, insomnia, Skin disorders, loss of appetite

Section 12- Ecological Information.

Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 93.80 mg/l - 96 h
	LC50 - Cyprinus carpio (Carp) - 26.00 mg/l - 96 h
Toxicity to daphnia	EC50 - Daphnia magna (Water flea) - 940.00 mg/l - 48 h
and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1,140.00 mg/l - 48 h
	EC50 - Daphnia pulex (Water flea) - 520.00 mg/l - 48 h
Toxicity to algae	EC50 - SELENASTRUM - 100.00 - 180.00 mg/l - 72 h

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
no data available

Section 13- Disposal Considerations.

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging
Dispose of as unused product.

Section 14- Transport Information.

DOT (US)

UN number: 1282 Class: 3 Packing group: II
Proper shipping name: Pyridine
Reportable Quantity (RQ): 1000 lbs
Marine Pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1282 Class: 3 Packing group: II
Proper shipping name: PYRIDINE
Marine Pollutant: No

IATA

UN number: 1282 Class: 3 Packing group: II
Proper shipping name: Pyridine

Section 15- Regulatory Information.

OSHA Hazards

Flammable liquid, Harmful by ingestion., Harmful by skin absorption., Carcinogen

Section 16- Other Information.

Briti Scientific provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.