Material Safety Data Sheet
4-Aminopyridine

ACC# 11601

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Aminopyridine
Catalog Numbers: AC104570000, AC104570050, AC104570250, AC104571000, NC9414525, NC9538981, XXAC10457-5KG
Synonyms: Amino-4-pyridine; gamma-Aminopyridine; 4-Pyridylamine; 4-Pyridinamine.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
504-24-5	4-Aminopyridine	98	207-987-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to pale yellow crystalline powder.
Danger! May be fatal if swallowed. Toxic if absorbed through the skin. Causes eye, skin, and respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Target Organs: Central nervous system, respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Causes redness and pain.
Skin: Causes skin irritation. Substance is rapidly absorbed through the skin. Causes symptoms similar to those of inhalation. Causes redness and pain. Toxic in contact with skin.
Ingestion: May be fatal if swallowed. May cause irritation of the digestive tract. Poison by ingestion. May cause effects similar to those for inhalation exposure. Possible aspiration hazard. An oral dose of 590 mg/kg of 4-aminopyridine in a man produced shortness of breath, nausea, vomiting, hallucinations and distorted perception. Affects the CNS to produce tremor, excitability and convulsions.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause severe headaches, nausea, increased blood pressure, weakness, convulsions, and a stuporous state.
Chronic: May cause liver and kidney damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately.
Skin: POISON material. In case of contact, get medical aid immediately. Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Call a poison control center. POISON material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: 156 deg C (312.80 deg F)
Autoignition Temperature: 640 deg C (1,184.00 deg F)
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Keep unnecessary and unprotected personnel away.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
4-Aminopyridine	none listed	none listed	none listed

OSHA Vacated PELs: 4-Aminopyridine: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Appearance: white to pale yellow
Odor: characteristic odor
pH: 11 (74 g/l (20°C))
Vapor Pressure: 0.8 mm Hg @25 deg C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 273 deg C
Freezing/Melting Point:157 - 161 deg C
Decomposition Temperature: Not available.
Solubility: 74 g/l water (20°C)
Specific Gravity/Density: Not available.
Molecular Formula:C5H6N2
Molecular Weight:94.12

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, acid chlorides, acid anhydrides.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 504-24-5: US1750000
LD50/LC50:
CAS# 504-24-5:
Oral, mouse: LD50 = 19 mg/kg;
Oral, rat: LD50 = 21 mg/kg;
.

Carcinogenicity:
CAS# 504-24-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: LC50 = 2.8-7.5 mg/L; 96 Hr.; Static Conditions; 12-22 CBacteria: Phytobacterium phosphoreum: EC50 = 23.6-26.5 mg/L; 5,15,30 minutes; Microtox test; 15 Degrees C No data available.
Environmental: Leaching in soil may be possible to the occurrence of the slower bonding reaction. Based upon aqueous screening tests that used soil for inocula and soil grab sample data, both aerobic and anaerobic biodegradation of 4-aminopyridine is expected to be slow in soil.
Physical: Based upon a log Kow of 0.26, a bioconcentration factor (log BCF) of -0.03 for 4-aminopyridine has been calculated using a recommended regression-derived equation. This BCF value indicates 4-aminopyridine should not bioconcentrate among aquatic organisms.
Other: Not readily biodegradable. Do not empty into drains.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: CAS# 504-24-5: waste number P008.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	**Canada TDG**
Shipping Name:	AMINOPYRIDINES	AMINOPYRIDINES
Hazard Class:	6.1	6.1

UN Number:	UN2671	UN2671
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 504-24-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 504-24-5: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 504-24-5: 500 lb lower threshold TPQ; 10000 lb upper threshold TP Q

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 504-24-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European / International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+

Risk Phrases:

R 24 Toxic in contact with skin.
R 28 Very toxic if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 1 Keep locked up.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face pr
otection.
S 45 In case of accident or if you feel unwell, seek medical advice
immediately (show the label where possible).
S 28A After contact with skin, wash immediately with plenty of water
.

WGK (Water Danger/Protection)

CAS# 504-24-5: No information available.

Canada - DSL/NDSL

CAS# 504-24-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 7/19/1999
Revision #5 Date: 7/10/2007