

# 4-Dimethylaminopyridine

# **Section 1: Chemical Product and Company Identification**

Product Name: 4-Dimethylaminopyridine

**CAS#**: 1122-58-3 **RTECS**: US9230000

TSCA: TSCA 8(b) inventory: 4-Dimethylaminopyridine

CI#: Not available.

Synonym: DMAP; gamma-(Dimethylamino)pyaridine; p-

Dimethylaminopyridine

Chemical Name: Pyridine, 4-(dimethylamino)-

Chemical Formula: C7-H10-N2

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# **Section 2: Composition and Information on Ingredients**

#### Composition:

Name	CAS#	% by Weight
{4-}Dimethylaminopyridine	1122-58-3	100

**Toxicological Data on Ingredients:** 4-Dimethylaminopyridine: ORAL (LD50): Acute: 250 mg/kg [Rat]. 190 mg/kg [Rat]. DERMAL (LD50): Acute: 13 mg/kg [Rabbit].

# **Section 3: Hazards Identification**

#### **Potential Acute Health Effects:**

Very hazardous in case of skin contact (permeator). Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant). Severe over-exposure can result in death.

#### **Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to mucous membranes, skin, central nervous system (CNS), eye, lens or cornea. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

### **Section 4: First Aid Measures**

### **Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention.

#### Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

#### **Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

#### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

#### Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

# **Section 5: Fire and Explosion Data**

**Flammability of the Product:** May be combustible at high temperature.

Auto-Ignition Temperature: 420°C (788°F) Flash Points: CLOSED CUP: 110°C (230°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

#### Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

### **Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks. Non-explosive in presence of heat.

#### **Fire Fighting Media and Instructions:**

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

#### **Special Remarks on Explosion Hazards:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

### **Section 6: Accidental Release Measures**

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

#### Large Spill:

Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

# **Section 7: Handling and Storage**

#### Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

# **Section 8: Exposure Controls/Personal Protection**

#### **Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### **Personal Protection:**

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

# Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

# **Section 9: Physical and Chemical Properties**

Physical state and appearance: Solid. (Crystals solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 122.17 g/mole

Color: White.

pH (1% soln/water): Not available.

**Boiling Point:** 162°C (323.6°F) @ 50 mm Hg

Melting Point: 110°C (230°F) - 113 C Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available. Ionicity (in Water): Not available.

**Dispersion Properties:** Not available.

Solubility:

# Section 10: Stability and Reactivity Data

Stability: The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, incompatible materials, dust generation **Incompatibility with various substances:** Reactive with oxidizing agents, acids.

Corrosivity: Not available.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

# **Section 11: Toxicological Information**

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

**Toxicity to Animals:** 

Acute oral toxicity (LD50): 190 mg/kg [Rat]. Acute dermal toxicity (LD50): 13 mg/kg [Rabbit].

**Chronic Effects on Humans:** 

May cause damage to the following organs: mucous membranes, skin, central nervous system (CNS), eye, lens or cornea.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (permeator). Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

#### **Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Causes skin irritation. Very toxic if absorbed through the skin. It may even be fatal if absorbed through the skin. Eyes: Causes severe eye irritation. Inhalation: Causes respiratory tract irritation. Ingestion: Harmful if swallowed. Symptoms of overexposure by ingestion or skin absorption may include headache, nausea, disorientation, weakness, and convulsions.

# **Section 12: Ecological Information**

Ecotoxicity: Not available.

BOD5 and COD: Not available.

### **Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

# **Section 13: Disposal Considerations**

#### Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

# **Section 14: Transport Information**

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Toxic Solid, Organic (4-Dimethylaminopyridine) UNNA: 2811 PG: I

Special Provisions for Transport: Not available.

# **Section 15: Other Regulatory Information**

Federal and State Regulations: TSCA 8(b) inventory: 4-Dimethylaminopyridine

# Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

#### Other Classifications:

WHMIS (Canada): CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).

### DSCL (EEC):

R25- Toxic if swallowed. R27- Very toxic in contact with skin. R36/37/38- Irritating to eyes, respiratory system and skin. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

# HMIS (U.S.A.):

**Health Hazard: 3** 

Fire Hazard: 1

Reactivity: 0

**Personal Protection: E** 

# National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 1
Reactivity: 0

Specific hazard:

### **Protective Equipment:**

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

### **Section 16: Other Information**

References: Not available.

Other Special Considerations: Not available.