

# Material Safety Data Sheet

## 4-Cyanopyridine

ACC# 55440

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 4-Cyanopyridine

**Catalog Numbers:** AC110870000, AC110870050, AC110871000, AC110875000

**Synonyms:** Isonicotinonitrile.

**Company Identification:**

Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

| CAS#     | Chemical Name   | Percent | EINECS/ELINCS |
|----------|-----------------|---------|---------------|
| 100-48-1 | 4-Cyanopyridine | 98      | 202-856-2     |

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white to yellow brown crystals. Flash Point: 88 deg C.

**Warning!** Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye, skin, and respiratory tract irritation. Material is a solid at room temperature that melts upon moderate heating into a combustible liquid with a flash point below 200°C (93.3°F).

**Target Organs:** Respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation.

**Skin:** Causes skin irritation. Harmful if absorbed through the skin. May be metabolized to cyanide which in turn acts by inhibiting cytochrome oxidase impairing cellular respiration.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness and possible death.

**Inhalation:** Harmful if inhaled. Causes respiratory tract irritation. May be metabolized to cyanide which in turns act by inhibiting cytochrome oxidase impairing cellular respiration.

**Chronic:** Exposure to small amounts of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness, and symptoms of irritation of the upper respiratory tract and eyes.

### 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 immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**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 victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**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. Will burn if involved in a fire. Material is a solid at room temperature that melts upon moderate heating into a combustible liquid with a flash point below 200°C (93.3°F).

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** 88 deg C ( 190.40 deg F)

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

**Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

### Exposure Limits

| Chemical Name   | ACGIH       | NIOSH       | OSHA - Final PELs |
|-----------------|-------------|-------------|-------------------|
| 4-Cyanopyridine | none listed | none listed | none listed       |

**OSHA Vacated PELs:** 4-Cyanopyridine: 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:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Appearance:** white to yellow brown

**Odor:** None reported.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 196 deg C @ 760 mmHg

**Freezing/Melting Point:** 77 - 81 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble.

**Specific Gravity/Density:** Not available.

**Molecular Formula:** C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>

**Molecular Weight:** 104.11

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, dust generation, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents - strong acids - strong bases.

**Hazardous Decomposition Products:** Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 100-48-1 unlisted.

**LD50/LC50:**

Not available.

**CAS#** : 110-86-1 Oral, rat: LD50 = 891 mg/kg.; Inhalation, rat: LC50 = 28500 mg/kg/1H.;

Dermal, rabbit: LD50 = 1121

**Carcinogenicity:**

**CAS#** 100-48-1: 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:** No data available. No information available.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** 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:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

|                       | US DOT                        | Canada TDG                     |
|-----------------------|-------------------------------|--------------------------------|
| <b>Shipping Name:</b> | TOXIC SOLIDS, ORGANIC, N.O.S. | NITRILES, TOXIC, SOLID, N.O.S. |
| <b>Hazard Class:</b>  | 6.1                           | 6.1                            |
| <b>UN Number:</b>     | UN2811                        | UN3439                         |
| <b>Packing Group:</b> | III                           | III                            |

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 100-48-1 is listed on the TSCA inventory.

#### Health & Safety Reporting List

CAS# 100-48-1: Effective 6/1/87, Sunset 6/1/97

#### 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

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

**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# 100-48-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**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:**

XN

**Risk Phrases:**

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

**Safety Phrases:**

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

S 37/39 Wear suitable gloves and eye/face protection.

**WGK (Water Danger/Protection)**

CAS# 100-48-1: 1

**Canada - DSL/NDSL**

CAS# 100-48-1 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B3, D1B, 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**

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| <b>Section 16 - Additional Information</b> |
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**MSDS Creation Date:** 10/20/1998

**Revision #5 Date:** 6/04/2008

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