

# Material Safety Data Sheet

## 4-N,N-Diethyl-2-methyl-p-phenylenediamine monohydrochloride, 99+%

ACC# 20645

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 4-N,N-Diethyl-2-methyl-p-phenylenediamine monohydrochloride, 99+%

**Catalog Numbers:** AC407340250, AC407345000

**Synonyms:** 2-Amino-5-diethylaminotoluene monohydrochloride; Color developing agent; CD-2; 4-Amino-3-methyl-N,N-diethylaniline hydrochloride; 1,4-Benzenediamine, N<sup>(sup) 4</sup>,N<sup>(sup) 4</sup>-diethyl-2-methyl-, monohydrochloride; Toluene-2,5-diamine, N<sup>(sup) 5</sup>,N<sup>(sup) 5</sup>-diethyl-, monohydrochloride.

**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
2051-79-8	4-N,N-Diethyl-2-methyl-p-phenylenediamine monohydrochloride	>99	218-130-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white to off-white powder.

**Warning!** Harmful if swallowed. Causes eye irritation. May cause allergic skin reaction.

**Target Organs:** Eyes, skin.

**Potential Health Effects**

**Eye:** Causes eye irritation.

**Skin:** May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Eastman results found no skin irritation in rabbits and moderate skin irritation in guinea pigs.

**Ingestion:** Harmful if swallowed.

**Inhalation:** Dust is irritating to the respiratory tract.

**Chronic:** Chronic exposure may cause liver damage. Eastman MSDS dated 1/18/2002 says in section 3: May cause liver damage based on animal data. They also check that it is both an immediate and delayed health hazard under SARA 311-312.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

**Skin:** In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**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. Use water spray to keep fire-exposed containers cool. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

**Extinguishing Media:** Use water spray or dry chemical.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; 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. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid breathing dust.

**Storage:** Keep container closed when not in use. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

## 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 process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
4-N,N-Diethyl-2-methyl-p-phenylenediamine monohydrochloride	none listed	none listed	none listed

**OSHA Vacated PELs:** 4-N,N-Diethyl-2-methyl-p-phenylenediamine monohydrochloride: 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:** Powder

**Appearance:** white to off-white

**Odor:** odorless

**pH:** 6.0 (aq soln)

**Vapor Pressure:** Not available.

**Vapor Density:** 7.1 (air=1)

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 260 deg C (dec)

**Decomposition Temperature:** 258 deg C

**Solubility:** Soluble.

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

**Molecular Formula:** C<sub>11</sub>H<sub>19</sub>CIN<sub>2</sub>

**Molecular Weight:** 214.74

## Section 10 - Stability and Reactivity

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

**Conditions to Avoid:** Dust generation, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

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

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS# 2051-79-8:** SS9560000

**LD50/LC50:**

**CAS# 2051-79-8:**

Dermal, guinea pig: LD50 = >1 gm/kg;

Oral, rat: LD50 = 200 mg/kg;

**Carcinogenicity:**

CAS# 2051-79-8: 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

No information available.

## 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

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	Toxic Solid, Organic, N.O.S.	Toxic Solid, Organic, N.O.S.
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN2811	UN2811
<b>Packing Group:</b>	III	III

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 2051-79-8 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

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.

#### SARA Codes

CAS # 2051-79-8: immediate, delayed.

#### 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 depleters.

This material does not contain any Class 2 Ozone depleters.

#### 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# 2051-79-8 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:

T N

#### Risk Phrases:

R 25 Toxic if swallowed.

R 36 Irritating to eyes.

R 43 May cause sensitization by skin contact.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety Phrases:

S 24 Avoid contact with skin.

S 26 In case of contact with eyes, rinse immediately with plenty of

water and seek medical advice.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 2051-79-8: No information available.

**Canada - DSL/NDSL**

CAS# 2051-79-8 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of 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**

## Section 16 - Additional Information

**MSDS Creation Date:** 9/02/1997

**Revision #7 Date:** 9/06/2005

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*