Material Safety Data Sheet
N,N-Dimethylaniline

ACC# 11332

Section 1 - Chemical Product and Company Identification

MSDS Name: N,N-Dimethylaniline
Catalog Numbers: AC115920000, AC115920010, AC115920025, AC115920050, AC9575005, XXAC11592-19
Synonyms: N,N-Dimethylbenzeneamine; Dimethylphenylamine; DMA.

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

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>121-69-7</td>
<td>N,N-Dimethylaniline</td>
<td>99</td>
<td>204-493-5</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: oily liquid. Flash Point: 63 deg C.
May be fatal if swallowed. **Danger!** Causes eye, skin, and respiratory tract irritation. Harmful if absorbed through skin or if inhaled. **Combustible liquid and vapor.** Impairs the oxygen carrying capacity of the blood.
Methemoglobin former - can cause cyanosis. May cause central nervous system depression.
**Target Organs:** Blood, kidneys, central nervous system.

**Potential Health Effects**

*Eye:* May cause severe eye irritation. May result in corneal injury.

*Skin:* Causes skin irritation. May be absorbed through the skin in harmful amounts. No skin sensitization reported in a test on guinea pigs.

*Ingestion:* May be fatal if swallowed. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause central nervous system depression.

*Inhalation:* Causes respiratory tract irritation. May cause effects similar to those described for ingestion. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood. Inhalation of aniline causes anoxia due to the formation of methemoglobin.

*Chronic:* May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Exposure to large doses may cause central nervous system depression. Repeated exposures may cause red blood cell destruction, or abnormal blood forming system function with anemia. Lifelong exposure increased the number of spleen tumors in male rats and stomach tumors in female mice.

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...
immediately.  
**Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.  
**Ingestion:** 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:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.  
**Notes to Physician:** For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

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### 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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. 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. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.  
**Extinguishing Media:** Water may be ineffective. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray.  
**Flash Point:** 63 deg C (145.40 deg F)  
**Autoignition Temperature:** 371 deg C (699.80 deg F)  
**Explosion Limits, Lower:** 1.0%  
**Upper:** 7.0%  
**NFPA Rating:** (estimated) Health: 3; Flammability: 2; Instability: 0

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### 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. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

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### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat and flame. Avoid breathing vapor or mist.  
**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store in metal containers. Store protected from light and air. Isolate from oxidizing materials and acids.

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### 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.  
**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/23/2007 12:29:30 PM</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
N,N-Dimethylaniline

OSHA Vacated PELs: N,N-Dimethylaniline: 5 ppm TWA; 25 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

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: Liquid
Appearance: yellow - oily
Odor: amine-like
pH: Not available.
Vapor Pressure: 0.7 mm Hg @ 25 deg C
Vapor Density: 4.17 (air=1)
Evaporation Rate: Not available.
Viscosity: 1.3 cps @ 25 deg C
Boiling Point: 194 deg C
Freezing/Melting Point: 2.45 deg C
Decomposition Temperature: > 400 deg C
Solubility: Insoluble.
Specific Gravity/Density: 0.956
Molecular Formula: C₈H₁₁N
Molecular Weight: 121.18

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Darkens on exposure to light and air.
Conditions to Avoid: Light, ignition sources, prolonged exposure to air.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, carbon steel.
Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, carbon dioxide, aniline.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: 
CAS# 121-69-7: BX4725000
LD₅₀/LC₅₀:
CAS# 121-69-7:
Dermal, guinea pig: LD₅₀ = >20 mL/kg;
Draize test, rabbit, eye: 20 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg/24H Mild;
Oral, rat: LD₅₀ = 951 mg/kg;
Skin, rabbit: LD₅₀ = 1770 uL/kg;

Oral, human: LDLo = 50 mg/kg.
Carcinogenicity:
CAS# 121-69-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology: No data available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Terrestrial: May be susceptible to moderate to high leaching in soil. Aquatic: The persistence half-life of N,N-dimethylaniline in the Rhine River has been estimated to be 2.3 days based on the observed decrease in concn over a monitored river length. Atmospheric: Expected to exist almost entirely in the gas-phase in the ambient atmosphere. Gas-phase N,N-dimethylaniline is expected to degrade rapidly in air by reaction with photochemically produced hydroxyl radicals and by reaction with ozone; the half-lives for these reactions in an average atmosphere to be up to 30 hours.
Physical: Expected to biodegrade but not bioconcentrate.
Other: 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

<table>
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<tr>
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<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>N,N-DIMETHYLANILINE</td>
<td>N,N-DIMETHYLANILINE</td>
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<tr>
<td>Hazard Class:</td>
<td>6.1</td>
<td>6.1</td>
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<tr>
<td>UN Number:</td>
<td>UN2253</td>
<td>UN2253</td>
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<tr>
<td>Packing Group:</td>
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<td>II</td>
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</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 121-69-7 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# 121-69-7: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 121-69-7: immediate, delayed, fire.

Section 313
This material contains N,N-Dimethylaniline (CAS# 121-69-7, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:
CAS# 121-69-7 is listed as a hazardous air pollutant (HAP).
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# 121-69-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, 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 N

Risk Phrases:
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 40 Limited evidence of a carcinogenic effect.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S 36/37 Wear suitable protective clothing and gloves.
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.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)
CAS# 121-69-7: 2

Canada - DSL/NDSL
CAS# 121-69-7 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of B3, 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
CAS# 121-69-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/31/1998
Revision #8 Date: 3/16/2007

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.