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## Material Safety Data Sheet

### N,N-Dimethylaniline

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

**MSDS Name:**N,N-Dimethylaniline

**Synonyms:**Aniline,N,N-dimethyl-;Benzenamine,N,N-dimethyl-;Dimethylanilin;Dimethylaniline,N-N-dimethylphenylamine;Dimethylphenylamine;Dwumetyloanilina;dwumetyloanilina(polish);N,N-(Dimethylamino)benzene

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

##### Composition:

Name	CAS # %	By Weight
N,N-Dimethylaniline	121-69-7	100%

#### Section 3: Hazards Identification

### **Potential Health Effects**

**Eye:** Causes eye irritation. May result in corneal injury.

**Skin:** Causes skin irritation. May cause dermatitis. Toxic in contact with skin.

**Ingestion:** May cause irritation of the digestive tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause nausea and vomiting. May cause central nervous system depression. Toxic if swallowed.

**Inhalation:** Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Toxic if inhaled. Overexposure produces central nervous system depression.

#### **Chronic:**

May cause liver and kidney damage. 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. Repeated exposure may cause damage to the spleen. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Animal studies have reported the development of tumors. Limited evidence of a carcinogenic effect.

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

#### **Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

#### **Skin Contact:**

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

#### **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.

**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.

**Notes to Physician:**

Treat symptomatically and supportively.

## Section 5: Fire and Explosion Hazard Data

**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. Containers may explode in the heat of a fire. Combustible liquid and vapor.

**Extinguishing Media:**

Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Water may be ineffective.

**Autoignition Temperature:** 370 deg C ( 698.00 deg F)

**Flash Point:** 63 deg C ( 145.40 deg F)

**Explosion Limits:Lower:** 1.2 vol %

**Explosion Limits:Upper:** 7.0 vol %

**NFPA Rating:** health: 3; flammability: 2; instability: 1;

## 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). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

**Section7: Handling and storage**

**Handling:**  
 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. Store protected from light and air.

**Section 8: Exposure controls/personal protection**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
N,N-Dimethylaniline	5 ppm; 10 ppm STEL; Skin - Potential Significant contribution to overall exposure by the cutaneous route	5 ppm TWA; 25 mg/m3 TWA 100 ppm IDLH	5 ppm TWA; 25 mg/m3 TWA

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

**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**

**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:** Liquid

**Color:** clear yellow

**Odor:** amine-like - fish-like

**pH:** 7.4 (1 g/L aq.sol.)

**Vapor Pressure:** 0.53 mbar @ 20 deg C

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** Not available

**Boiling Point:** 193 - 194 deg C @ 760 mmHg

**Freezing/Melting Point:** 1.5 - 2.5 deg C

**Decomposition Temperature:** Not available

**Solubility in water:** Soluble

**Specific Gravity/Density:** 0.950

**Molecular Formula:** C8H11N

**Molecular Weight:** 121.18

## Section 10: Stability and reactivity

**Chemical Stability:** Darkens on exposure to light and air. Air sensitive. Light sensitive.

**Conditions to Avoid:** Incompatible materials, light, ignition sources, exposure to air, excess heat.

### Incompatibilities with Other Materials

Strong oxidizing agents, acids, acid chlorides, halogens, acid anhydrides, dibenzoyl peroxide, chloroformates.

### Hazardous Decomposition

Products Nitrogen oxides, carbon monoxide, carbon dioxide.

**Hazardous Polymerization** Will not occur.

## Section 11: Toxicological information

**RTECS#:** CAS# 121-69-7: BX4725000

### LD50/LC50:

RTECS:

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;

Other: Oral, human: LDLo = 50 mg/kg.

**Carcinogenicity:** N,N-Dimethylaniline - IARC: Group 3 (not classifiable)

**Other:** The hazards associated with aniline may be seen in this product. See actual entry in RTECS for complete information.

## Section 12: Ecological information

**Other:** Do not empty into drains.

### Section 13: Disposal considerations

Dispose of in a manner consistent with federal, state, and local regulations.

### Section 14: Transport information

#### US DOT

**Shipping Name:** N,N-DIMETHYLANILINE

**Hazard Class:** 6.1

**UN Number:** UN2253

**Packing Group:** II

#### Canada TDG

**Shipping Name:** N,N-DIMETHYLANILINE

**Hazard Class:** 6.1

**UN Number:** UN2253

**Packing Group:** II

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

### Section 15: Regulatory information

#### 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 28A After contact with skin, wash immediately with plenty of water.

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

WGK (Water Danger/Protection)

CAS# 121-69-7: 2

#### **Canada**

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

Canadian WHMIS Classifications: B3, D1A, D2A, 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.

CAS# 121-69-7 is listed on Canada's Ingredient Disclosure List

#### **US Federal**

TSCA

CAS# 121-69-7 is listed on the TSCA

Inventory.

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

MSDS Creation Date: 7/31/2004

Revision #10 Date 7/20/2012

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 the company 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 the company has been advised of the possibility of such damages.