

MATERIAL SAFETY DATA SHEET

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24-Hour Emergency Telephone (800) 424-9300

ATTN: PLANT MGR/SAFETY DIR

Revision Date: 11/08/10  
Date Printed:  
MSDS File id: MSDSLT08  
Customer No:  
Whse No: 0001

This MSDS complies with 29 CFR 1910.1200 (The Hazard Communication Standard)

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I. IDENTIFICATION

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Product Name: N,N-Dimethylaniline  
Common Name: Dimethylaniline  
Formula: C8H11N

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II. INGREDIENTS AND RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS

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Name	% by Weight	CAS No.	RTECS No.
N,N-Dimethylaniline	99.7 minimum	121-69-7	BX472500
N-Methylaniline	0.3 maximum	100-61-8	BY455000
Aniline	0.05 maximum	62-53-3	BV665000

HAZARD DATA - DANGER!

May cause eye, skin, and upper respiratory tract irritation.

INGREDIENT HAZARD INFORMATION

Dimethylaniline is identified as a SARA Section 313 chemical.

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III. PHYSICAL DATA

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Boiling Point (oC): 193.5-194.5  
Vapor Density (AIR=1): 4.2  
Appearance and Odor: Yellow liquid; amine odor  
Specific Gravity (H2O=1) @ 25o/25: 0.960  
Solubility in Water: Slight; soluble in alcohol and acetone

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IV. FIRE AND EXPLOSION HAZARD DATA

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Flash Point: 145oF (Tag Closed Cup)  
Flammable Limits: Lel: 1.0%  
Uel: 7.0%

**EXTINGUISHING DATA**

Carbon dioxide or dry chemicals, foam, water spray and fog.

**SPECIAL FIRE FIGHTING PROCEDURES AND EQUIPMENT**

Avoid contact with liquid and vapors. Wear full protective clothing and self-contained breathing apparatus. Clear area downwind of incident. Cool containers exposed to heat with water. (Water will spread spilled material.)

**UNUSUAL FIRE AND EXPLOSION PROCEDURES**

Vapors and liquid are toxic and flammable. May form explosive mixtures with air. Dangerous when heated to decomposition. May emit toxic fumes of aniline. (See also Sections 6, 7, 8, and 9.) Follow appropriate National Fire Protection Association (NFPA) codes.

**HAZARDOUS INCOMPLETE COMBUSTION PRODUCTS**

NO<sub>x</sub>, CO. Also possible nitriles; aromatic amines; aldehydes; acids; cyanide; phenols.

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**V. REACTIVITY DATA**

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Stable: Yes, at ambient temperatures  
Unstable: Yes, at elevated temperatures

**INCOMPATIBILITY (Materials to Avoid)**  
Strong oxidizing agents and acids.

**HAZARDOUS DECOMPOSITION PRODUCTS**  
Nitrogen oxide gas.

Polymerization will not occur at ambient temperatures.

**CONDITIONS TO AVOID**  
Excessive temperatures.

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**VI. SPILL OR LEAK PROCEDURES**

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**TRANSPORTATION EMERGENCIES**  
Call CHEMTREC (800) 424-9300

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**  
Clean up spills promptly. Avoid contact with liquid or vapor forms. (See Sections 8 and 10.) Ventilate immediate area, clear area downwind. Absorb spills using "Speedy Dry" or similar absorbent. Shovel and sweep up saturated absorbent material. Hose area down with water. Persons not wearing protective equipment and clothing should be restricted from area of spills and leaks.

**ON HIGHWAY:** Call CHEMTREC - (800) 424-8802. Local environmental agency should be notified.

WITHIN MANUFACTURING AREA: Contact Environmental Control Department

DISPOSAL METHODS: Deposit absorbent material saturated with product in a separate labeled, leak-proof container and take to an approved treatment, storage, or disposal facility. See Section 12 for RCRA/CERCLA information.

## VII. HEALTH HAZARD DATA

### MAJOR EXPOSURE HAZARDS

Inhalation: Yes  
 Skin Contact: Yes  
 Eye Contact: Yes  
 Ingestion: Yes

### TOXICITY AND SENSITIVITY DATA

Ingestion Oral LD50 (Rat): ca 1350 mg/kg  
 Absorption Dermal LD50 (Rabbit): 1770 (1090-2860) mg/kg  
 Inhalation LCLO (Rat): 250 mg/m<sup>3</sup> (4 hour)  
 Irritation - Skin (Rabbit): 0.67 on scale of 8 (Draize)  
 Eyes (Rabbit): 1.0 mg/m<sup>3</sup>, 5h/d x 6d/wk x 17 wks  
 caused by 5% (absolute) rise in  
 methemoglobin.

### CARCINOGENICITY

None of the components in this product are presently listed as a carcinogen by OSHA, NTP, IARC, or ACGIH. Warning: This product contains trace amounts of aniline which is listed by the State of California as a substance known to cause cancer. Warning: A report of a two-year gavage study of Dimethylaniline was published by NTP (TR 360, March 1989). The study demonstrated some evidence of carcinogenic activity of Dimethylaniline in male rats, equivocal evidence in female mice.

### PRIMARY ROUTE(S) OF ENTRY

Inhalation, skin, and eyes

### PERMISSIBLE EXPOSURE LIMITS

	OSHA (3/89)	ACGIH TLV (1990/91)	Buffalo Color Limit Values
N,N-Dimethylaniline	25 mg/m <sup>3</sup> TWA* 50 mg/m <sup>3</sup> STEL	25 mg/m <sup>3</sup> TWA* 50 mg/m <sup>3</sup> STEL	0.2 mg/m <sup>3</sup> TWA 2.0 mg/m <sup>3</sup> Ceiling
N-Methylaniline	2 mg/m <sup>3</sup> TWA*	2.2 mg/m <sup>3</sup> TWA*	1.0 mg/m <sup>3</sup> TWA
Aniline	8 mg/m <sup>3</sup> TWA*	7.6 mg/m <sup>3</sup> TWA*	2.0 mg/m <sup>3</sup> TWA

\* Skin designation by OSHA and ACGIH

### SIGNS AND SYMPTOMS OF EXPOSURE (PROGRESSIVE)

Cyanosis (blue coloration of lips, nail beds, and eyelids), headache, fatigue, dizziness, fast labored breathing, increased pulse, cardiac arrest, convulsions, coma, and death. Excessive chronic exposure can affect liver, spleen, kidneys, and blood.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE  
None known

Vapor and liquid forms are toxic if breather, swallowed, or absorbed through the skin. Dimethylaniline of skin has poor warning properties. It is rapidly absorbed through skin and causes cyanosis. Do not get into eyes, on skin, or clothing. Avoid breathing vapor. Use with adequate ventilation. Eating and smoking should not be permitted in area where Dimethylaniline is handled, processed, or stored.

Dimethylaniline should be handled in closed systems, using steel pipelines and equipment. Recommended storage temperature is 50o to 100oF. Keep closed to protect from light and prevent evaporation. Re-use of containers for other materials is not recommended.

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VIII. EMERGENCY AND FIRST AID PROCEDURES

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In case of contact, get medical attention.

Remove person from exposure site. Immediately flush eyes or skin with large amounts of water for at least 15 minutes while removing contaminated clothing, including shoes. Shower thoroughly and don clean, dry clothing and clean shoes. Thorough cleansing of the entire contaminated area of the body, including hair, scalp, nails, nostrils, and ear canals, is of utmost importance. Discard all contaminated clothing and shoes. If ingested and person is conscious, induce vomiting. Support breathing with artificial respiration, if necessary.

Note to Physician: Special Medical Surveillance: Blood methemoglobin if exposure or degree of cyanosis is in doubt. Avoid aspirin or aspirin-like products for complaints of headache. Advise patient to avoid alcohol for 2-3 days. In case of skin absorption, symptoms may be delayed.

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IX. SPECIAL PROTECTION INFORMATION

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RESPIRATORY: NIOSHA/MSHA approved organic vapor respirator should be used to avoid excessive inhalation. Appropriate respirator selection depends on magnitude and type of exposure.

SKIN: Natural rubber or butyl rubber gloves should be used to prevent skin contact. Where employees may be splashed, polyethylene protective aprons or clothing should be provided. A face shield should be used to prevent facial contact.

EYE: Employees should be required to wear chemical splash proof safety glasses to prevent eye contact.

VENTILATION: Local exhaust ventilation should be used to control the build-up of air contaminants. General dilution ventilation may help to reduce air contaminant concentrations.

OTHER PROTECTIVE EQUIPMENT: An eyewash station and deluge safety shower should be available in the work area. Moisturizing creams can be used to prevent excessive drying of the skin.

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep away from heat, sparks, and fire. Keep container closed. Store away from oxidizers. Bond and ground containers for transfers of this product to prevent static sparks.

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X. REGULATORY STATUS

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TSCA STATUS: This product (or its ingredients if it is a mixture) appears on the Toxic Substances Control Act Inventory (TSCA).

SARA HAZARD CATEGORIES (Section 311 and Section 312):

Reactivity: Yes  
Immediate Health: Yes  
Delayed Health: Yes  
Fire: Yes

SARA Section 313: See Section II, Ingredient Hazard Statement

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XI. SHIPPING INFORMATION

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DOT/IMO

Proper shipping Name : N,N-DIMETHYLANILINE  
Hazard Class : 6.1  
UN No. : UN 2253  
Packaging Group : II  
DOT Placard : Poison

Shipping Containers  
Tank Car  
Tank Truck  
Drums

HMIS RATINGS (Hazardous Materials Identification System, Scale 0-4):

Health: 4  
Flammability: 2  
Reactivity: 0

NFPA RATINGS (National Fire Protection Association, Scale 0-4):

Health: 4  
Flammability: 2  
Reactivity: 0