

ALFAAL05173

## N,N-Dimethylaniline

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: Product Description:	N,N-Dimethylaniline N,N-Dimethylaniline
Cat No. :	L05173
Synonyms	DMA
CAS No	121-69-7
Molecular Formula	C8 H11 N
Supplier	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
Emergency Telephone Number	For information <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887
E-mail address	begel.sdsdesk@thermofisher.com
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

### SECTION 2. HAZARD IDENTIFICATION

Physical State Liquid	Appearance Yellow	Odor Fishy
<b>Emergency Overview</b> Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Toxic to aquatic life with long lasting effects. Combustible liquid. Suspected of causing cancer.		

#### Classification of the substance or mixture

Flammable liquids.	Category 4
Acute Oral Toxicity	Category 3
Acute Dermal Toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 3
Carcinogenicity	Category 2
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

#### Label Elements

**Signal Word****Danger****Hazard Statements**

H227 - Combustible liquid

H411 - Toxic to aquatic life with long lasting effects

H351 - Suspected of causing cancer

H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P311 - Call a POISON CENTER or doctor

P330 - Rinse mouth

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

Combustible material.

**Health Hazards**

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Harmful if inhaled. Suspected of causing cancer.

**Environmental hazards**

Toxic to aquatic life with long lasting effects. . Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight %
Dimethylaniline	121-69-7	>95

**SECTION 4. FIRST AID MEASURES****Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation**

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion**

Call a physician immediately. Clean mouth with water.

**Most important symptoms and effects**

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water mist may be used to cool closed containers. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**

Water may be ineffective.

**Specific Hazards Arising from the Chemical**

Combustible material. Containers may explode when heated.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Wear self-contained breathing apparatus and protective suit. Do not let this chemical enter the environment. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide

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appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition.

**Storage**

Keep away from heat, sparks and flame. Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters**

Component	China	Taiwan	Thailand	Hong Kong
Dimethylaniline	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> Skin	TWA: 5 ppm TWA: 25 mg/m <sup>3</sup>	TWA: 5 ppm	-

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Dimethylaniline	TWA: 5 ppm STEL: 10 ppm Skin	(Vacated) TWA: 5 ppm (Vacated) TWA: 25 mg/m <sup>3</sup> (Vacated) TWA: 2 ppm (Vacated) TWA: 8 mg/m <sup>3</sup> (Vacated) STEL: 10 ppm (Vacated) STEL: 50 mg/m <sup>3</sup> Skin TWA: 5 ppm TWA: 25 mg/m <sup>3</sup>	IDLH: 100 ppm TWA: 5 ppm TWA: 25 mg/m <sup>3</sup> STEL: 10 ppm STEL: 50 mg/m <sup>3</sup>	STEL: 10 ppm 15 min STEL: 50 mg/m <sup>3</sup> 15 min TWA: 5 ppm 8 hr TWA: 25 mg/m <sup>3</sup> 8 hr Skin	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment****Eye Protection**

Goggles (European standard - EN 166)

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g.

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sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure
<b>Respiratory Protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
<b>Large scale/emergency use</b>	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced <b>Recommended Filter type:</b> Particulates filter conforming to EN 143 Ammonia and organic ammonia derivatives filter Type K Green conforming to EN14387
<b>Small scale/Laboratory use</b>	Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. <b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Yellow	
<b>Physical State</b>	Liquid	
<b>Odor</b>	Fishy	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	7.4	1 g/l water
<b>Melting Point/Range</b>	1.5 - 2.5 °C / 34.7 - 36.5 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	193 - 194 °C / 379.4 - 381.2 °F	@ 760 mmHg
<b>Flash Point</b>	63 °C / 145.4 °F	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	<b>Lower</b> 1.2 <b>Upper</b> 7	
<b>Vapor Pressure</b>	0.53 mbar @ 20 °C	
<b>Vapor Density</b>	No information available	(Air = 1.0)
<b>Specific Gravity / Density</b>	0.950	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	1 g/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Dimethylaniline	2.278	
<b>Autoignition Temperature</b>	370 °C / 698 °F	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>		explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C8 H11 N	
<b>Molecular Weight</b>	121.18	

## SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Reactions</b>	No information available.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid</b>	Excess heat. Exposure to air. Exposure to light. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
<b>Materials to avoid</b>	Acids. Strong oxidizing agents. Halogens. Acid anhydrides. Acid chlorides. Chloroformates.
<b>Hazardous Decomposition Products</b>	Nitrogen oxides (NO <sub>x</sub> ). Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ).

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

## (a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dimethylaniline	LD50 = 951 mg/kg ( Rat )	LD50 = 1770 mg/kg ( Rabbit )	LC50 > 0.5 - 5.0 mg/L ( Rat ) 4 h

(b) skin corrosion/irritation;	Based on available data, the classification criteria are not met
(c) serious eye damage/irritation;	Based on available data, the classification criteria are not met
(d) respiratory or skin sensitization;	
Respiratory	Based on available data, the classification criteria are not met
Skin	Based on available data, the classification criteria are not met
(e) germ cell mutagenicity;	Based on available data, the classification criteria are not met
(f) carcinogenicity;	Category 2
	The table below indicates whether each agency has listed any ingredient as a carcinogen
(g) reproductive toxicity;	Based on available data, the classification criteria are not met
(h) STOT-single exposure;	Based on available data, the classification criteria are not met
(i) STOT-repeated exposure;	Based on available data, the classification criteria are not met
Target Organs	None known.
(j) aspiration hazard;	Based on available data, the classification criteria are not met
<b>Symptoms / effects, both acute and delayed</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

## SECTION 12. ECOLOGICAL INFORMATION

## N,N-Dimethylaniline

**Ecotoxicity effects**

The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Dimethylaniline	LC50: = 53.7 mg/L, 96h semi-static (Poecilia reticulata) LC50: = 51.1 mg/L, 96h semi-static (Brachydanio rerio) LC50: 0.183 - 0.186 mg/L, 96h (Brachydanio rerio) LC50: = 65.6 mg/L, 96h (Pimephales promelas) LC50: = 52.6 mg/L, 96h flow-through (Pimephales promelas)	EC50: = 5 mg/L, 48h (Daphnia magna)	EC50: = 340 mg/L, 96h (Desmodesmus subspicatus)	EC50 = 110 mg/L 24 h EC50 = 13.6 mg/L 5 min EC50 = 14.6 mg/L 30 min

**Persistence and Degradability****Persistence****Degradation in sewage treatment plant**

Not readily biodegradable

Persistence is unlikely.

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative Potential**

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Dimethylaniline	2.278	4.7 - 13.6 dimensionless

**Mobility in soil**

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

**Endocrine Disruptor Information****Persistent Organic Pollutant****Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste from Residues/Unused Products**

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport****UN-No**

UN2253

**Proper Shipping Name**

N,N-DIMETHYLANILINE

**Hazard Class**

6.1

**Packing Group**

II

**IMDG/IMO**

**SAFETY DATA SHEET****N,N-Dimethylaniline**

**UN-No** UN2253  
**Proper Shipping Name** N,N-DIMETHYLANILINE  
**Hazard Class** 6.1  
**Packing Group** II

**IATA**

**UN-No** UN2253  
**Proper Shipping Name** N,N-DIMETHYLANILINE  
**Hazard Class** 6.1  
**Packing Group** II

**Special Precautions for User** No special precautions required

**SECTION 15. REGULATORY INFORMATION****International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Dimethylaniline	X	X	X	X	204-493-5	X	X	X	X	X	X	KE-05-0532

**National Regulations****SECTION 16. OTHER INFORMATION**

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 19-Apr-2012  
**Revision Date** 26-Apr-2024  
**Revision Summary** New emergency telephone response service provider.

**Training Advice**

Chemical incident response training.

**Legend**

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative



**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**