

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**  
Version: **GHS 1.1 en**  
Replaces version of: 2020-06-30  
Version: (GHS 1)

date of compilation: 2020-06-30  
Revision: 2020-06-30

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance	<b>N,N-dimethylaniline</b>
Article number	1CA6
Registration number (REACH)	It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a)
Index No	612-016-00-0
EC number	204-493-5
CAS number	121-69-7

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** laboratory and analytical use  
laboratory chemical

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/ city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline ≥99 %, for synthesis

article number: 1CA6

### Classification acc. to GHS

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
2.6	flammable liquid	(Flam. Liq. 4)	H227
3.10	acute toxicity (oral)	(Acute Tox. 4)	H302
3.1D	acute toxicity (dermal)	(Acute Tox. 4)	H312
3.1I	acute toxicity (inhal.)	(Acute Tox. 3)	H331
3.6	carcinogenicity	(Carc. 2)	H351

## 2.2 Label elements

### Labelling GHS

#### Signal word

**Danger**

#### Pictograms

GHS06, GHS08



#### Hazard statements

H227 Combustible liquid  
H302+H312 Harmful if swallowed or in contact with skin  
H331 Toxic if inhaled  
H351 Suspected of causing cancer

#### Precautionary statements

##### Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing.

##### Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P311 Call a POISON CENTER or doctor/physician.  
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction.

##### Precautionary statements - storage

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

##### Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant.

For professional users only

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline ≥99 %, for synthesis

article number: 1CA6

### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H227	Combustible liquid.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311	Call a POISON CENTER or doctor/physician.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to industrial combustion plant.

### 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	N,N-dimethylaniline
Index No	612-016-00-0
EC number	204-493-5
CAS number	121-69-7
Molecular formula	C8H11N
Molar mass	121.2 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Self-protection of the first aider.

#### Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Call a doctor.

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline ≥99 %, for synthesis

article number: 1CA6

### 4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Causes slight to moderate irritation

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours can form explosive mixtures with air.

#### Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Explosive properties.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory).

#### • Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

#### Advice on general occupational hygiene

Wash hands before breaks and after work.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

Store locked up.

#### • Ventilation requirements

Use local and general ventilation.

#### • Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Source
AU	N,N-dimethylaniline	121-69-7		WES	5	25	10	50			WES

#### Notation

Ceiling-C  
STEL

Ceiling value is a limit value above which exposure should not occur  
Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

## N,N-dimethylaniline $\geq 99\%$ , for synthesis

article number: 1CA6

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### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

##### • type of material

FKM (fluoro rubber)

##### • material thickness

>0,4 mm

##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

## N,N-dimethylaniline $\geq 99\%$ , for synthesis

article number: 1CA6

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	liquid (fluid)
Colour	light yellow - yellow
Odour	pungent
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	This information is not available.
Melting point/freezing point	$>1.5 - <2.5$ °C
Initial boiling point and boiling range	76 – 78 °C at 1,013 hPa
Flash point	61 °C at 960 hPa 75 °C at 1,013 hPa
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	0.5 mmHg at 20 °C
Density	0.926 g/cm <sup>3</sup> at 35 °C
Vapour density	4.2 (air = 1)
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	1,450 mg/l at 20 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	1.171 (pH value: 6.58, 35 °C) (ECHA)
Soil organic carbon/water (log KOC)	1.896 (ECHA)
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	
• kinematic viscosity	11.88 mm <sup>2</sup> /s at 35 °C
• dynamic viscosity	11 mPa s at 35 °C
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

### 9.2 Other information

There is no additional information.

Surface tension 35.52 mN/m (25 °C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

In case of warming: Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	951 mg/kg	rat	ECHA
dermal	LD50	1,692 mg/kg	rabbit	ECHA

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Summary of evaluation of the CMR properties

##### Carcinogenicity:

Suspected of causing cancer

##### • Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### • Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.



## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

### Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

data are not available

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

slightly irritant but not relevant for classification

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	78.2 mg/l	fish	ECHA	96 h
EC50	8.1 mg/l	aquatic invertebrates	ECHA	24 h

### 12.2 Process of degradability

The substance is readily biodegradable.

Theoretical Oxygen Demand with nitrification: 3.103 mg/mg

Theoretical Oxygen Demand: 2.64 mg/mg

Theoretical Carbon Dioxide: 2.905 mg/mg

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) 1.171 (pH value: 6.58, 35 °C)

BCF 16 (ECHA)

### 12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient 1.896

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.


#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

### SECTION 14: Transport information

<b>14.1</b>	UN number	<b>2253</b>
<b>14.2</b>	UN proper shipping name	<b>N,N-DIMETHYLANILINE</b>
	Hazardous ingredients	N,N-dimethylaniline
<b>14.3</b>	Transport hazard class(es)	
	Class	6.1 (toxic substances)
<b>14.4</b>	Packing group	II (substance presenting medium danger)
<b>14.5</b>	Environmental hazards	hazardous to the aquatic environment
<b>14.6</b>	<b>Special precautions for user</b>	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
<b>14.7</b>	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.	
<b>14.8</b>	<b>Information for each of the UN Model Regulations</b>	
	<b>• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b>	
	UN number	2253
	Proper shipping name	N,N-DIMETHYLANILINE
	Particulars in the transport document	UN2253, N,N-DIMETHYLANILINE, 6.1, II, (D/E), environmentally hazardous
	Class	6.1
	Classification code	T1

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

Packing group	II
Danger label(s)	6.1 + "fish and tree"
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 ml
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	60
<b>Emergency Action Code</b>	3Z
<b>• International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	2253
Proper shipping name	N,N-DIMETHYLANILINE
Particulars in the shipper's declaration	UN2253, N,N-DIMETHYLANILINE, 6.1, II, MARINE POLLUTANT
Class	6.1
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	6.1 + "fish and tree"
Special provisions (SP)	-
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 mL
EmS	F-A, S-A
Stowage category	A
<b>• International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
UN number	2253
Proper shipping name	N,N-Dimethylaniline
Particulars in the shipper's declaration	UN2253, N,N-Dimethylaniline, 6.1, II
Class	6.1
Environmental hazards	yes (hazardous to the aquatic environment)
Packing group	II

## N,N-dimethylaniline ≥99 %, for synthesis

article number: **1CA6**

Danger label(s) 6.1



Excepted quantities (EQ) E4

Limited quantities (LQ) 1 L

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

#### Legend

AICS	Australian Inventory of Chemical Substances
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## N,N-dimethylaniline ≥99 %, for synthesis

article number: 1CA6

### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	ceiling value
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

# Safety data sheet

Safe Work Australia - Code of Practice



## N,N-dimethylaniline $\geq 99\%$ , for synthesis

article number: **1CA6**

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### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H227	combustible liquid
H302	harmful if swallowed
H312	harmful in contact with skin
H331	toxic if inhaled
H351	suspected of causing cancer

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.