

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Version: 3.0

Page: 1/12

(30096009/SDS\_GEN\_US/EN)

### 1. Identification

#### Product identifier used on the label

**TOLUENE DIAMINE TDA**

#### Recommended use of the chemical and restriction on use

Recommended use\*: Chemical, Raw material

Recommended use\*: Intermediate

Unsuitable for use: Uses other than recommended

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

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

Company:

BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

#### Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Molecular formula: C7 H10 N2  
Chemical family: aromatic, diamines  
Synonyms: Mixed Isomers of Toluenediamine  
TDA

---

### 2. Hazards Identification

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

#### Classification of the product

Acute Tox.	3 (oral)	Acute toxicity
Acute Tox.	3 (dermal)	Acute toxicity

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Page: 2/12

Version: 3.0

(30096009/SDS\_GEN\_US/EN)

Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Sens.	1B	Skin sensitization
Muta.	2	Germ cell mutagenicity
Carc.	1B	Carcinogenicity
Repr.	2 (fertility)	Reproductive toxicity
STOT RE	2 (oral)	Specific target organ toxicity — repeated exposure
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

### Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility.
H350	May cause cancer.
H341	Suspected of causing genetic defects.
H301 + H311	Toxic if swallowed or in contact with skin
H373	May cause damage to organs (Liver, Testes) through prolonged or repeated exposure (oral).
H411	Toxic to aquatic life with long lasting effects.
H400	Very toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P260	Do not breathe dust or mist.
P280	Wear eye protection.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash contaminated body parts thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P330	Rinse mouth
P391	Collect spillage.
P337 + P313	If eye irritation persists: Get medical attention.

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Page: 3/12

Version: 3.0

(30096009/SDS\_GEN\_US/EN)

Precautionary Statements (Storage):  
P405 Store locked up.

Precautionary Statements (Disposal):  
P501 Dispose of contents/container in accordance with local regulations.

### Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

## 3. Composition / Information on Ingredients

### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

1,3-Benzenediamine, ar-methyl-  
CAS Number: 25376-45-8  
Content (W/W): >= 100.0 - <= 100.0%  
Synonym: Benzenediamine, ar-methyl-

## 4. First-Aid Measures

### Description of first aid measures

#### General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

#### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

#### If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

#### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

Remove contact lenses, if present.

#### If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

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

Symptoms: Eye irritation, Skin contact may provoke the following symptoms:, allergic symptoms

*Information on: 1,3-Benzenediamine, ar-methyl-*

*Symptoms: Overexposure may cause:, unconsciousness, cyanosis, death, methaemoglobinaemia, headache, dizziness*

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30  
Version: 3.0

Page: 4/12  
(30096009/SDS\_GEN\_US/EN)

-----  
Hazards: Symptoms can appear later.

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

#### Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

---

## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:  
water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:  
water jet

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:  
No particular hazards known.

### Advice for fire-fighters

Protective equipment for fire-fighting:  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

### Further information:

Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Impact Sensitivity:

Remarks: Based on the chemical structure there is no shock-sensitivity.

---

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

### Environmental precautions

This product is regulated by RCRA.

Do not discharge into drains/surface waters/groundwater.

### Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

---

## 7. Handling and Storage

### Precautions for safe handling

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Page: 5/12

Version: 3.0

(30096009/SDS\_GEN\_US/EN)

Ensure thorough ventilation of stores and work areas. Refill and handle product only in closed system. Provide basic employee training to prevent/minimize exposures. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

No special precautions necessary.

### Conditions for safe storage, including any incompatibilities

Segregate from acids. Segregate from oxidants. Segregate from foods and animal feeds.

Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2), tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed.

---

## 8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

### Advice on system design:

Provide local exhaust ventilation to control dusts/vapours.

### Personal protective equipment

#### Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. Observe OSHA regulations for respirator use (29 CFR 1910.134).

#### Hand protection:

Chemical resistant protective gloves, Consult with glove manufacturer for testing data.

#### Eye protection:

Tightly fitting safety goggles (chemical goggles).

#### Body protection:

chemical-protection suit (f.e. according to EN 14605)

#### General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapours/dusts. Avoid all contact with the substance. Employees should shower at the end of the shift. Wash soiled clothing immediately. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

---

## 9. Physical and Chemical Properties

Form:	solid
Odour:	faint odour, ammonia-like
Odour threshold:	not applicable
Colour:	light yellow
pH value:	approx. 8 - 10
Melting point:	98 °C ( 1,013 hPa)
Boiling point:	541 °F ( 1 ATM)

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Page: 6/12

Version: 3.0

(30096009/SDS\_GEN\_US/EN)

Sublimation point:	No applicable information available.	
Flash point:	approx. 284 °F	(Unspecified)
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Density:	approx. 1.2 g/cm <sup>3</sup> ( 25 °C)	
Relative density:	1.2 - 1.26 ( 20 °C)	(Directive 92/69/EEC, A.3)
Bulk density:	8.68 lb/USg	
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	( 25 °C)	(Directive 92/69/EEC, A.8)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting. 490 - 505 °C	(Directive 92/69/EEC, A.15)
Thermal decomposition:	No decomposition if correctly stored and handled.	
Viscosity, dynamic:	not applicable	
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	11 g/l ( 10 °C)	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	No applicable information available.	
Molar mass:	122.17 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

## 10. Stability and Reactivity

### Reactivity

Corrosion to metals:  
No corrosive effect on metal.

Oxidizing properties:  
not fire-propagating

Formation of flammable gases:      Remarks:      Forms no flammable gases in the presence of water.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

Evolution of heat under influence of acids.

### Conditions to avoid

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Version: 3.0

Page: 7/12

(30096009/SDS\_GEN\_US/EN)

Avoid extreme temperatures.  
Temperature: < 0 degrees Celsius

### Incompatible materials

oxidizing agents, acids

### Hazardous decomposition products

Decomposition products:

carbon monoxide, carbon dioxide, hydrogen cyanide

Hazardous decomposition products: nitrogen oxides

No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

No decomposition if correctly stored and handled.

---

## 11. Toxicological information

### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

#### Acute toxicity

Assessment of acute toxicity: Of high toxicity after single ingestion. Of pronounced toxicity after short-term skin contact.

#### Oral

Type of value: LD50

Species: rat (male)

Value: 136 mg/kg (OECD Guideline 401)

#### Inhalation

No data available.

#### Dermal

Type of value: LD50

Species: rat

Value: 463 mg/kg (OECD Guideline 402)

#### Assessment other acute effects

Assessment of STOT single:

Based on available data, the classification criteria are not met.

#### Irritation / corrosion

Assessment of irritating effects: Eye contact causes irritation. Not irritating to the skin.

#### Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Version: 3.0

Page: 8/12

(30096009/SDS\_GEN\_US/EN)

### Eye

Species: rabbit

Result: Irritant.

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: slightly sensitizing

Method: OECD Guideline 429

### Aspiration Hazard

Not relevant.

## **Chronic Toxicity/Effects**

### Repeated dose toxicity

Assessment of repeated dose toxicity: The substance may cause damage to the liver after repeated ingestion. The substance may cause damage to the testes after repeated ingestion.

### Genetic toxicity

Assessment of mutagenicity: The substance was mutagenic in various test systems with microorganisms, mammalian cell culture and mammals.

### Carcinogenicity

Assessment of carcinogenicity: The substance caused cancer in animal studies.

### Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies suggest a fertility impairing effect.

### Teratogenicity

Assessment of teratogenicity: No reliable data was available concerning teratogenicity. Study scientifically not justified.

### Other Information

There is a possibility of liver damage

### Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the liver or kidneys may have increased susceptibility to excessive exposures.

---

## **12. Ecological Information**

### **Toxicity**

#### Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

#### Toxicity to fish

LC50 (96 h) 393 mg/l, Brachydanio rerio (OECD Guideline 203, static)

LC50 (96 h) 0.414 mg/l (OECD Guideline 203, Flow through.)



# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Page: 9/12

Version: 3.0

(30096009/SDS\_GEN\_US/EN)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The statement of the toxic effect relates to the analytically determined concentration.

LC50 (96 h) 283 mg/l (OECD Guideline 203, semistatic)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Aquatic invertebrates

EC50 (48 h) 1.6 mg/l, Daphnia magna (semistatic)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Aquatic plants

EC50 (72 h) 39 mg/l (growth rate), Desmodosmus subspicatus (OECD Guideline 201, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Chronic toxicity to fish

No observed effect concentration (10 d) 3.16 mg/l, Brachydanio rerio (OECD Guideline 212, Flow through.)

The details of the toxic effect relate to the nominal concentration.

### Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 0.282 mg/l, Daphnia magna (OECD Guideline 211, semistatic)

The statement of the toxic effect relates to the analytically determined concentration.

No observed effect concentration (28 d) 125 mg/kg sediment dw, Chironomus riparius (OECD 218, static)

### Assessment of terrestrial toxicity

Toxic effects have been observed in studies with soil living organisms.

### Soil living organisms

Toxicity to soil dwelling organisms:

No observed effect concentration (14 d) 215 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)

### Toxicity to terrestrial plants

No observed effect concentration (17 d) 100 mg/l, Lactuca sativa (OECD Guideline 208)

### Other terrestrial non-mammals

No data available.

## **Microorganisms/Effect on activated sludge**

### Toxicity to microorganisms

DIN EN ISO 8192-OECD 209-88/302/EEC,P. C aquatic activated sludge/EC50 (3 h): > 100 mg/l

Nominal concentration.

## **Persistence and degradability**

### Assessment biodegradation and elimination (H2O)

Not readily biodegradable (by OECD criteria). Poorly biodegradable.

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30  
Version: 3.0

Page: 10/12  
(30096009/SDS\_GEN\_US/EN)

### Elimination information

4 % BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge, domestic)

### Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

### **Bioaccumulative potential**

#### Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

#### Bioaccumulation potential

Bioconcentration factor: < 5 (42 d), Cyprinus carpio (OECD Guideline 305 C)

### **Mobility in soil**

#### Assessment transport between environmental compartments

The substance will slowly evaporate into the atmosphere from the water surface.  
Adsorption to solid soil phase is expected.

---

## 13. Disposal considerations

### **Waste disposal of substance:**

Do not discharge substance/product into sewer system. Dispose of in a RCRA-licensed facility.  
Dispose of in accordance with national, state and local regulations.

### **Container disposal:**

Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility.

**RCRA:** U221

---

## 14. Transport Information

### **Land transport**

USDOT

Hazard class:	6.1
Packing group:	III
ID number:	UN 1709
Hazard label:	6.1
Proper shipping name:	2,4-TOLUYLENEDIAMINE, SOLID HOT MOLTEN

### **Sea transport**

IMDG

Hazard class:	6.1
Packing group:	III
ID number:	UN 1709
Hazard label:	6.1
Marine pollutant:	NO
Proper shipping name:	2,4-TOLUYLENEDIAMINE, SOLID HOT MOLTEN

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30  
Version: 3.0

Page: 11/12  
(30096009/SDS\_GEN\_US/EN)

### Air transport

IATA/ICAO

Hazard class: 6.1  
Packing group: III  
ID number: UN 1709  
Hazard label: 6.1  
Proper shipping name: 2,4-TOLUYLENEDIAMINE, SOLID HOT MOLTEN

### Further information

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this SDS for the RQ for this product.

## 15. Regulatory Information

### Federal Regulations

#### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

#### EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
25376-45-8	1,3-Benzenediamine, ar-methyl-

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
10 LBS	25376-45-8	1,3-Benzenediamine, ar-methyl-

### State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	25376-45-8	1,3-Benzenediamine, ar-methyl-
NJ	25376-45-8	1,3-Benzenediamine, ar-methyl-

### NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 0 Special:

### HMIS III rating

Health: 2<sup>a</sup> Flammability: 1 Physical hazard: 0

## 16. Other Information

### SDS Prepared by:

BASF NA Product Regulations  
SDS Prepared on: 2021/09/30

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

# Safety Data Sheet

## TOLUENE DIAMINE TDA

Revision date : 2021/09/30

Version: 3.0

Page: 12/12

(30096009/SDS\_GEN\_US/EN)

---

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.  
END OF DATA SHEET