

Chemical Safety Data Sheet MSDS / SDS

2,4-Diaminotoluene

Revision Date:2026-06-06 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name : 2,4-Diaminotoluene
CBnumber : CB5854712
CAS : 95-80-7
EINECS Number : 202-453-1
Synonyms : 2,4-Diaminotoluene,DIAMINOTOLUENE

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Hazard statements

H317 May cause an allergic skin reaction
H341 Suspected of causing genetic defects
H350 May cause cancer
H373 May cause damage to organs through prolonged or repeated exposure

SECTION 3: Composition/information on ingredients

Substance

Product name	: 2,4-Diaminotoluene
Synonyms	: 2,4-Diaminotoluene,DIAMINOTOLUENE
CAS	: 95-80-7
EC number	: 202-453-1
MF	: C7H10N2
MW	: 122.17

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

May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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: Firefighting measures

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO2). Dry chemical. Chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

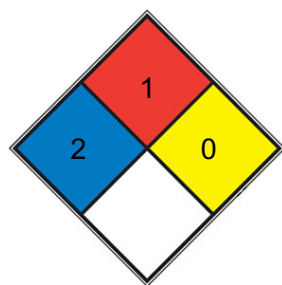
Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

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.

NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 1 Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

SPEC.

HAZ.

SECTION 6: Accidental release measures

desc_info

Personal Precautions						
Ensure adequate ventilation.						
Environmental Precautions						
Do not flush into surface water or sanitary sewer system.						
Methods for Containment and Clean Up						
Sweep up and shovel into suitable containers for disposal.						
Refer to protective measures listed in Sections 8 and 13.						

SECTION 7: Handling and storage

Handling

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation.

Storage

Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

Specific Use(s)

Use in laboratories

SECTION 8: Exposure controls/personal protection

Control Parameters

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. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. 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.

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.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

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

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use

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.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Brown

Physical State

Solid

Odor

Odorless

Odor Threshold

No data available

pH

No information available

Melting Point/Range

97 - 101 °C / 206.6 - 213.8 °F

Softening Point

No data available

Boiling Point/Range

283 - 285 °C / 541.4 - 545 °F

Flash Point

149 °C / 300.2 °F Method - No information available

Evaporation Rate

Not applicable Solid

Flammability (solid,gas)

No information available

Explosion Limits

No data available

Vapor Pressure

1 hPa @ 106 °C

Vapor Density

Not applicable Solid

Specific Gravity / Density

1.26 g/cm³ (20°C)

Bulk Density

1.26 g/cm³ (20°C)

Water Solubility

50 g/l (25 C)

Solubility in other solvents

38g/l

Partition Coefficient (n-octanol/water)

No data available

desc_info

Component: Toluene 2,4-diamine log Pow: 0.074

Autoignition Temperature

520 °C / 968 °F

Decomposition Temperature

No data available

Viscosity

Not applicable Solid

Explosive Properties

No information available

Oxidizing Properties

No information available

Molecular Formula

C7 H10 N2

Molecular Weight

122.17

Colour

Brown to dark gray

SECTION 10: Stability and reactivity

Stability

Stable under normal conditions.

Hazardous Reactions

No information available.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Incompatible products.

Materials to avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: Toxicological information

Product Information**(a) acute toxicity;****Component**

LD50 Oral LD50 Dermal LC50 Inhalation

Toluene 2,4-diamine

LD50 = 73 mg/kg (Rat) LD50 = 650 mg/kg (Rabbit)

(b) skin corrosion/irritation;

No data available

(c) serious eye damage/irritation;

No data available

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity;

Category 2

Ames test

; positive

(f) carcinogenicity;

Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Toluene 2,4-diamine	Carc Cat. 1B		Cat. 2	Group 2B

(g) reproductive toxicity;

Category 2

(h) STOT-single exposure;

No data available

(i) STOT-repeated exposure;

Category 2

Target Organs

Liver, Kidney.

(j) aspiration hazard;

Not applicable

Solid

Symptoms / effects, both acute and delayed

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

SECTION 12: Ecological information

Ecotoxicity effects

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

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Toluene 2,4-diamine	LC50: 797 - 1040 mg/L, 96h flow-through (Oryzias latipes) LC50: = 1420 mg/L, 96h flow-through (Pimephales promelas)			EC50 = 102 mg/L 30 min EC50 = 106 mg/L 5 min EC50 = 97.0 mg/L 15 min

Persistence and Degradability

Not readily biodegradable

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradation in sewage

Contains substances known to be hazardous to the environment or not degradable in waste

treatment plant

water treatment plants.

Bioaccumulative Potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Toluene 2,4-diamine	0.074	No data available

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

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

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
Chemical Book

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

UN1709

Proper Shipping Name

2,4-TOLUYLENEDIAMINE, SOLID

Hazard Class

6.1

Packing Group

III

IMDG/IMO

UN-No

UN1709

Proper Shipping Name

2,4-TOLUYLENEDIAMINE, SOLID

Hazard Class

6.1

Packing Group

III

IATA

UN-No

UN1709

Proper Shipping Name

2,4-TOLUYLENEDIAMINE, SOLID

Hazard Class

6.1

Packing Group

III

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).

National Regulations

Component	Toxic Chemical Substances Control Act
Toluene 2,4-diamine 95-80-7 (<=100)	Class IV (1 wt%)

SECTION 16: Other information

Prepared By

Health, Safety and Environmental Department

Revision Date

07-Sep-2025

Revision Summary

Not applicable.

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene. Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS

Chemical Abstracts Service

TSCA

United States Toxic Substances Control Act Section 8(b)

Inventory

EINECS/ELINCS

European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL

Canadian Domestic Substances List/Non-Domestic Substances List

PICCS

Philippines Inventory of Chemicals and Chemical Substances

ENCS

Japanese Existing and New Chemical Substances

IECSC

Chinese Inventory of Existing Chemical Substances

AICS

Australian Inventory of Chemical Substances

KECL

Korean Existing and Evaluated Chemical Substances

NZIoC

New Zealand Inventory of Chemicals

WEL

Workplace Exposure Limit

TWA

Time Weighted Average

ACGIH

American Conference of Governmental Industrial Hygienists

IARC

International Agency for Research on Cancer

DNEL

Derived No Effect Level

PNEC

Predicted No Effect Concentration

RPE

Respiratory Protective Equipment

LD50

Lethal Dose 50%

LC50

Lethal Concentration 50%

EC50

Effective Concentration 50%

NOEC

No Observed Effect Concentration

POW

Partition coefficient Octanol:Water

PBT

Persistent, Bioaccumulative, Toxic

vPvB

very Persistent, very Bioaccumulative

ICAO/IATA

International Civil Aviation Organization/International Air
Transport Association

IMO/IMDG

International Maritime Organization/International Maritime
Dangerous Goods Code

ADR

European Agreement Concerning the International Carriage of
Dangerous Goods by Road

MARPOL

International Convention for the Prevention of Pollution from
Ships

OECD

Organisation for Economic Co-operation and Development

ATE

Acute Toxicity Estimate

BCF

Bioconcentration factor

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

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