



Material Safety Data Sheet

Ortho Toluenediamine,OTD,OTDA

1.Product And Company Identification

Product name:Ortho Toluenediamine,OTD,OTDA

Product Use Description:Chemical intermediate.

Company:Nanjing XiangShengTai Industry Co., Ltd

Telephone:+86-25-84801979

2.Composition/Information On Ingredients

Components	CAS Number	Concentration (Weight)
Diaminotoluene, 3,4-	496-72-0	60 %
Diaminotoluene, 2,3-	2687-25-4	40%

CHEMICAL FAMILY: Aromatic Amine

3.Hazards Identification

Emergency Overview

- Toluenediamine (TDA) may have similar properties. It is recommended that users treat it in a like fashion and restrict its availability to those persons trained, qualified, and equipped to handle it properly.
- Product contains toluenediamine through the skin and has been shown to cause cancer in laboratory animals.
- Keep away from heat and sources of ignition.
- Reproductive toxin.
- Mild skin irritant.
- Irritating to eyes.
- Harmful if swallowed.

Potential Health Effects

- **Inhalation:**In general, toxic concentrations are most readily attained through inhalation of dust (which includes indirect ingestion) or directly through oral exposure.
- **Eye contact:**Contact with eyes may cause irritation.
- **Skin contact:**Mild skin irritation.Contact with hot product will cause thermal burns.
- **Ingestion:** Harmful if swallowed.
- Chronic Health Hazard:This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Reproductive toxin.
- **Repeated and/or prolonged exposures may result in:**Liver disorders(such as methemoglobinemia leading to cyanosis or loss of consciousness).

Exposure Guidelines:Reproductive disorders (such as birth defects or sterility). Liver disorders.

Target Organs:Eyes.
Liver.



Reproductive hazard. Blood.

Aggravated Medical Condition

Blood chemistry changes (such as methemoglobinemia leading to cyanosis or loss of consciousness).

Liver disorders (such as jaundice or liver enlargement). Reproductive disorders (such as birth defects or sterility).

Adverse eye effects (such as conjunctivitis or corneal damage). Eye disease

4. First Aid Measures

- **General advice:** Seek medical advice.
If breathing has stopped or is labored, give assisted respirations.
Supplemental oxygen may be indicated.
If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- **Eye contact:** Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.
- **Skin contact:** Avoid washing with hot water to minimize absorption. General contamination of the body or limbs requires a full body shower with special attention to hair and fingernails. Discard contaminated shoes and clothing. Cool skin rapidly with cold water after contact with molten material. Wash off immediately with plenty of water for at least 20 minutes. Wash off with soap and water. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay.

Ingestion: Prevent aspiration of vomit. Turn victim's head to the side.

Inhalation: Move to fresh air.

5. Fire- Fighting Measures

Suitable extinguishing media: Alcohol-resistant foam.
Carbon dioxide (CO₂).
Dry chemical.
Dry sand.
Limestone powder.

Specific hazards:

May generate ammonia gas. May generate toxic nitrogen oxide gases.

Use of water may result in the formation of very toxic aqueous solution. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO_x) is to be expected. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.

Special protective equipment

Use personal protective equipment. Wear self contained breathing apparatus for fire-fighters for fire fighting if necessary.

6. Accidental Release Measures

- **Personal precautions**
Use self-contained breathing apparatus and chemically protective clothing.
Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
- **Methods for cleaning up**
Flush area with hot water spray. Approach suspected leak areas with caution.



Contact Air Products' Emergency Response Center for advice. Place in appropriate chemical waste container.

- **Additional advice:** If possible, stop flow of product.

7. Handling And Storage

- **Handling:** Avoid use of glass wool insulation due to rapid oxidation of product resulting in possible spontaneous ignition. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Do not breathe vapors/dust. Avoid contact with eyes. Use personal protective equipment. When using, do not eat, drink or smoke.
- **Storage:** Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.
- **Technical measures/Precautions**
Do not store in reactive metal containers.

8. Exposure Controls/Personal Protection

- **Engineering measures:** Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.
Personal protective equipment
Respiratory protection: Not required for properly ventilated areas.
- **Hand protection:** Neoprene gloves.
- **PVC disposable gloves**
- **Nitrile rubber.**
The breakthrough time of the selected glove(s) must be greater than the heat insulating gloves intended use period.
- **Eye protection**
Full face shield with goggles underneath when molten material is being handled. Chemical resistant goggles must be worn.
- **Skin and body protection**
Long sleeve shirts and trousers without cuffs.
- **Special instructions for protection and hygiene**
Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet. Change
- **Exposure limit(s)**
work clothing daily before leaving the work place. Discard contaminated clothing.
- **Diaminotoluene, 3,4-** Time Weighted Average (TWA): WEEL 0.005 ppm 0.025 mg/m³

9. Physical And Chemical Properties

Form: Solid (for shipping and transfer, the product is often in a heated molten state)

Color: Light Grey.

Odor: Ammoniacal.

Relative density: 1.05 (water = 1)

Vapor pressure: 0.01 mmHg at 21 ° C

Density: 65.549 lb/ft³ (1.05 g/cm³) at 70 ° F (21 ° C)

Boiling point/range: > 473 ° F (> 245 ° C)

Melting point/range: 145 ° F (62.78 ° C)

Flash point: 157.22 ° C

Autoignition temperature: 540 ° C

Water solubility: Completely in hot water.

10. Stability And Reactivity

- **Materials to avoid**

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Organic acids (i.e. acetic acid, citric acid etc.).

Mineral acids.

This product is weakly basic and reacts with mineral acids to form water Oxidizing agents.

● **Hazardous decomposition**

soluble amine salts. These salts are more stable to oxidation than the basic

Glass wool insulation. amine. In case of fire hazardous decomposition products may be produced such as: products Carbon monoxide. Carbon dioxide (CO₂).

Nitrogen oxide can react with water vapors to form corrosive nitric acid. Nitrogen oxides (NO_x).

Ammonia.

11. Toxicological Information

Acute Health Hazard

Ingestion: LD50 : 660 mg/kg Species : Rat.

Inhalation: No data is available on the product itself.

Skin: LD50 : > 5,750 mg/kg

Eye irritation/corrosion: Eye irritation.

Acute dermal : Mild skin irritation.

Species : Rabbit.

irritation/corrosion Sensitization: Dermal sensitization to this product or component has been seen in some humans

Chronic Health Hazard

Thyroid, and bone marrow hyperplasia have been reported in exposed laboratory animals.

AMES TEST: Positive (activated and nonactivated). Reproductive effects, methemoglobinemia, hepatotoxicity.

12. Ecological Information

Ecotoxicity effects

Aquatic toxicity: The LC50 of TDA to various fish species ranges from 0.161 to 1420 mg/L and is isomer and species dependent. Based on microtox screening the ranking from most to least toxic is as follows: 2,5>2,4>commercial m-TDA>3,4>2,3>2,6.

Toxicity to other organisms : No data available.

Persistence and degradability

13. Disposal Considerations

Waste from residues / unused : Contact supplier if guidance is required.

Contaminated packaging: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. Transport Information

DOT

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Diaminotoluene, 3,4-, 2,3-Diaminotoluene)

Class : 6.1

UN/ID No.: UN 2811

Packing group: III

IATA

RQ TOXIC SOLID ORGANIC N.O.S.(CONTAINS TOLUENEDIAMINE) UN 2811

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Diaminotoluene, 3,4-, 2,3-Diaminotoluene)

Class :6.1

UN/ID No.: UN 2811

Email: julia@xstchem.com



Packing group: III

IMDG

Proper shipping name :Environmentally Hazardous Substance, Solid, n.o.s.
 (Diaminotoluene, 3,4-, 2,3-Diaminotoluene)
 Class :6.1
 Un/Id No. :UN 2811
 Packing Group:III

TDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (Diaminotoluene, 3,4-, 2,3-Diaminotoluene)
 Class :6.1
 Un/Id No. :UN 2811
 Packing Group:III

Further Information Note:If regulated as a hazardous material (Dangerous Good) in transportation, please refer to shipping papers or contact Air Products for complete shipping description information.

IMDG CODE SEGREGATION GROUP--NOT APPROPRIATE EMS:F-A,S-A

15.Information

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es)

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on EINECS inventory or polymersubstance monomers included on EINECS
inventory or no longer polymer		
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Not on Inventory.

EPA SARA Title II

Section 312 (40 CFR 370) Hazard Classification: Chronic Health Hazard

EPA SARA Title I I Section 313 (40 CFR 372) Component(s) above 'de minimus' level:
 Diaminotoluene, 3,4-US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65) **WARNING!** This product contains a chemical known in the State of California to cause cancer.
 Ortho-toluidine

WHMIS Hazard Classification

Very Toxic Material Causing Other Toxic Effects

16. Other Information

HMIS Rating

Health:2

Flammability :1

Physical hazard :0

Prepared by: BASF CORPORATION