

Product Data Sheet

OTD

Ortho Toluene-Diamine

Product Description

Ortho toluene-diamine (OTD) is an organic compound with a close formula $C_6H_3CH_3(NH_2)_2$. It is a light gray solid mainly consisted of 2,3-Diamino-Toluene and 3,4-Diamino-Toluene isomers. The compound is very unstable and tends to darken on storage & exposure to air at room temperature, due to oxidizing reaction. When heated to decomposition, it emits toxic fumes of nitrogen oxides. In KARUN Petrochemical Company, OTD is produced as a byproduct through some consecutive reactions starting with nitrating toluene to produce a dinitrotoluene isomer- mixture, followed by catalytic reduction to a mixture of the corresponding diamines, in presence of Palladium- Platinum (Pd-Pt) Catalyst and terminating to a purification process to separate it from the other companion isomers.

Applications:

OTD is used as a chemical intermediate in the production of tolyltriazole that is a corrosion inhibitor.

Another application is as a precursor to polyether polyols. It also is used in hair and makeup colors production, dye and pharmaceutical industries.

Property	Specification	Analytical Method
Appearance	Light gray to dark solid	Visual
Purity (Wt. %)	Min98.0	21.70.23A
Other isomers (Wt.%)	Max. 2.0	21.70.23A
Melting point (°C)	60.0-70.0	H900-300

Handling and storage conditions

Careful consideration should be given to handling this product. Use only with adequate ventilation. Toxic by inhalation, skin absorption, and ingestion. Irritating to eyes and skin. Do not eat, drink, or smoke in working area. OTD is readily absorbed through the skin, so skin and eye contact should be prevented. The handlers must wear special equipment which prohibits contact with skin or eyes. It is recommended to shower at the end of work shift. Store OTD in a cool, dry, well-ventilated area away from heat generation sources, strong

oxidizing
agents and strong acids. Store solidified OTD in tightly closed containers.

Packing details

220 liter (about 200 kg) steel barrels are used for the packaging of the OTD product.