

## MORPHOLINE TDS

Chemical name:: Dicyclohexylamine

English nickname: Dodecahydrodiphenylamine

CAS Number:: 101-83-7

Chemical Formula:: C<sub>12</sub>H<sub>23</sub>N

Molecular Weight:: 181.32

Purity: ≥99.3%

UN Number: 2565

Danger class: 8+3

### Characters:

Appearance and properties:Colorless Transparent Liquid

Density: 0.912 (20℃) ;

Melting point: -2℃;

Boiling point: 256℃;

Saturated vapor pressure: 1.2kPa (20 °C);

Flash point: 99℃;

Solubility: miscible with water, soluble in most organic solvents.

Heat of combustion (kJ/mol): no data available

Autoignition temperature: 293 ° C

Critical pressure (MPa): No data available

### Hazardous characteristics:

Dangerous properties:Can form explosive mixtures with air; Containers exposed to fire may leak their contents through pressure safety valves, thereby increasing the concentration of fire and/or vapor; The vapor may move to the ignition source and flash back; Liquids and vapors are flammable; May produce irritating, toxic, or corrosive gases when exposed to fire; When heated,

the container may explode; Containers exposed to fire may leak their contents through pressure safety valves; Heating or contact with flames may cause expansion or explosive decomposition.

Health hazard: Contact with this product has strong irritation to the eyes, skin, and respiratory tract. Direct eye contact can cause permanent visual damage. Long term repeated low concentration contact with this product on the skin can cause dermatitis.

Environmental hazards: Please refer to SDS Part 12

Flammability hazard: flammable

### **Operation, disposal and storage:**

Operation precautions: Avoid inhaling vapors; Only use tools that do not generate sparks; To prevent steam ignition caused by static discharge, all metal components on the equipment must be grounded; Use explosion-proof equipment; Operate with good ventilation; Wear appropriate personal protective equipment; Avoid contact with skin and eyes; Keep away from heat sources, sparks, open flames, and hot surfaces; Take measures to prevent the accumulation of static electricity.

Storage precautions: Keep the container tightly closed; Store in a dry, cool, and ventilated place; Keep away from heat sources, sparks, open flames, and hot surfaces; Store away from incompatible materials and food containers.

### **Transportation matters needing attention:**

During transportation, transportation vehicles should be equipped with corresponding types and quantities of fire-fighting equipment and leakage emergency response equipment. It is best to transport in the morning and evening in summer. The tank car used during transportation should have a grounding chain, and holes and partitions can be installed inside the tank to reduce vibration and generate static electricity. It is strictly prohibited to mix

and transport with oxidants, acids, edible chemicals, etc. During transportation, it is necessary to prevent exposure to sunlight, rain, and high temperatures. When stopping midway, one should stay away from sparks, heat sources, and high temperature areas. The exhaust pipe of the vehicle carrying this item must be equipped with a flame retardant device, and it is prohibited to use mechanical equipment and tools that are prone to sparks for loading and unloading. During road transportation, it is necessary to follow the prescribed route and not stay in residential or densely populated areas. It is prohibited to slide during railway transportation. It is strictly prohibited to transport in bulk using wooden or cement boats.

#### **Applications:**

Dicyclohexylamine mainly produces rubber additives (CBS/CZ), cyclohexyl isobutyrate, dimethylcyclohexylamine, sodium cyclamate, fungicides, etc. Mainly used as a solvent, it can also be used to produce desulfurizers, rubber antioxidants, vulcanization accelerators, plastic and textile chemical additives, boiler water treatment agents, metal corrosion inhibitors, emulsifiers, preservatives, antistatic agents, latex coagulants, petroleum additives, insecticides, dye intermediates, pharmaceutical intermediates