

SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: DABCO CRYSTALLINE

Chemical name:
Tertiary Amine

Other means of identification
None.

Recommended restrictions

Recommended use: Industrial use
Restrictions on use: None known.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
2 Turner Place
Piscataway, NJ 08854
USA

Telephone : +1 732 981 5000

E-mail : product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)
Emergency 800 681 9531 (CHEMTREC MEXICO)
+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable solid Category 1

Health Hazards

Acute toxicity (Oral) Category 4

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable solid.
 Harmful if swallowed.
 Causes skin irritation.
 Causes serious eye damage.
 May be harmful in contact with skin.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water/... If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTRE/doctor/... if you feel unwell. Rinse mouth. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Take off contaminated clothing. In case of fire: Use... to extinguish.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
 Tertiary Amine

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
1,4-Diazabicyclo(2.2.2.)Octane		280-57-9	50 - <100%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: Chemical family Tertiary Amine

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information:	Immediately remove contaminated clothing.
Inhalation:	Ensure supply of fresh air. Seek medical advice if symptoms occur.
Skin Contact:	In case of contact with skin wash off with soap and water. Consult a doctor if skin irritation persists.
Eye contact:	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice
Ingestion:	Thoroughly clean the mouth with water Obtain medical attention and take along these instructions.
Personal Protection for First-aid Responders:	Do not inhale explosion and/or combustion gases, Use self-contained breathing apparatus and wear protective suit

Most important symptoms/effects, acute and delayed

Symptoms: Skin irritation Serious eye irritation

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media: High volume water jet

Specific hazards arising from the chemical: In the event of fire the following can be released: - carbon dioxide, carbon monoxide - Ammonia (NH₃) - Nitrogen oxides (NO_x) Under certain conditions of combustion traces of other toxic substances cannot be excluded Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Avoid dust formation. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Vapours may form explosive mixtures with air Cool endangered containers by water spray

Special protective equipment for fire-fighters: Do not inhale explosion and/or combustion gases Use self-contained breathing apparatus and wear protective suit

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep away sources of ignition. Avoid dust formation.

Methods and material for containment and cleaning up:

Take up mechanically. Dilute residue with water and take up with absorbent material (eg sawdust, sand, universal binder) Dispose of absorbed material in accordance with the regulations.

Environmental Precautions:

Do not allow to enter drains or waterways Do not discharge into the subsoil/soil.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):

No data available.

Safe handling advice:

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin and eyes. Avoid the formation and deposition of dust. Do not breathe dust.

Contact avoidance measures:

No data available.

Hygiene measures:

Wash hands before breaks and at the end of workday. Do not eat, drink or smoke when working. Remove soiled or soaked clothing immediately.

Storage

Safe storage conditions:

Keep container tightly closed and dry. Keep only in the original container. Protect from atmospheric moisture and water Keep in a cool place. Do not store near acids.

Safe packaging materials:

No data available.

Storage Temperature:

No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

Eye/face protection:

goggles

Skin Protection

Product name: DABCO CRYSTALLINE

Hand Protection:	Material: Butyl rubber.Material: Nitrile rubber.Material: Neoprene.
Skin and Body Protection:	protective clothing
Respiratory Protection:	In case of dustformation, wear a mask for for fine dust.
Hygiene measures:	Wash hands before breaks and at the end of workday. Do not eat, drink or smoke when working. Remove soiled or soaked clothing immediately.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Crystalline solid.
Color:	White
Odor:	amine-like
Odor Threshold:	No data available.
pH:	approx. 10 (100 g/l,) Water/Methanol
Melting Point:	158 °C
Boiling Point:	174 °C (1,013 hPa)
Flash Point:	62.2 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	Flammable solid.
Explosive limit - upper:	not measured
Explosive limit - lower:	not measured
Vapor pressure:	0.43 hPa (23 °C)
Vapor density (air=1):	No data available.
Density:	1.14 g/cm ³ (20 °C)
Relative density:	No data available.
Solubility in Water:	610 g/l (25 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	-0.49
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	not measured
Dynamic viscosity:	not measured
Other information	
Explosive properties:	Not explosive
Oxidizing properties:	not oxidizing
Minimum ignition temperature:	not measured
Metal Corrosion:	not measured

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	The product is stable under normal conditions.
Possibility of hazardous reactions:	No hazardous reactions with proper storage and handling.

Conditions to avoid:	Heat, flames and sparks.
Incompatible Materials:	Organic acids (i.e. acetic acid, citric acid etc.). Mineral Acid Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.
Hazardous Decomposition Products:	Ammonia Nitrogen Oxides Nitrogen oxide can react with water vapors to form corrosive nitric acid.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	Relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 700 mg/kg
Dermal	
Product:	LD 50 (Rabbit): > 2,000 mg/kg
Inhalation	
Product:	Not classified for acute toxicity based on available data.

Repeated dose toxicity

Product:	NOAEL (Rat, pharyngeal probe, daily): 100 mg/kg NOEL (Rat, Inhalation(Aerosols) , daily): 0.006 mg/l
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Skin Corrosion/Irritation

Product:	No data available.
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Serious Eye Damage/Eye Irritation

Product:	No data available.
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Product name: DABCO CRYSTALLINE

Respiratory or Skin Sensitization**Product:** No data available.**Carcinogenicity****Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity**In vitro****Product:** Ames test (OECD 471): negative Own study**In vivo****Product:** In vivo micronucleus test (OECD 474) pharyngeal probe (Mouse): negative**Reproductive toxicity****Product:**

TEDA was tested in rats for systemic and reproductive effects in a 28-day oral study at doses of 100, 300 and 1000 mg/kg/day. Reversible inflammatory changes were seen in the kidneys of the adult animals dosed at 300 and 1000 mg/kg/day. Litter size at birth, postnatal survival and growth were decreased at 1000 mg/kg/day. The oral No-Observed-Adverse-Effect-Level (NOAEL) for reproductive and neonatal toxicity is 300 mg/kg/day. The oral NOAEL for parental systemic toxicity is 100 mg/kg/day. In another study, rats were exposed via inhalation to aqueous aerosols of TEDA (6 hours/day, 5 days/week for four weeks) at nominal concentrations of 5.8, 63 and 620 mg/m³. Histopathology revealed moderate chronic laryngitis in the mid- and high-dose animals. The high-dose animals also exhibited severe irritation of the exposed skin and eyes. One high-dose rat died. The inhalation NOAEL is 5.8 mg/m³.

Specific Target Organ Toxicity - Single Exposure**Product:** No data available.**Specific Target Organ Toxicity - Repeated Exposure****Product:** No data available.**Aspiration Hazard****Product:** Not classified**Other effects:**

Harmful if swallowed. Causes skin irritation. Causes serious eye damage.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:**

Fish

Product: LC0 (Cyprinus carpio (Carp), 96 h): > 100 mg/l
LC 50 (Leuciscus idus (Golden orfe), 96 h): 681 mg/l

Aquatic Invertebrates

Product: EC 50 (Daphnia magna, 48 h): > 100 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: EC 50 (Algae (Pseudokirchneriella subcapitata), 72 h): 110 mg/l
ErC50 (Algae (Pseudokirchneriella subcapitata), 72 h): 56 mg/l

Persistence and Degradability

Biodegradation

Product: 7 % (28 d)

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: -0.49 20 °C

Mobility in soil:

No data available.

Components:

1,4-Diazabicyclo(2.2.2.)Octane
No data available.

Other adverse effects:

Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods:

In accordance with local authority regulations, take to special waste incineration plant

Contaminated Packaging:

If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

14. Transport information

Domestic regulation**49 CFR**

UN/ID/NA number : UN 1325
Proper shipping name : Flammable solids, organic, n.o.s.
(1,4-Diazabicyclooctane)
Class : 4.1
Packing group : II
Labels : 4.1
ERG Code : 133
Marine pollutant : no

International Regulations**IATA-DGR**

UN/ID No. : UN 1325
Proper shipping name : Flammable solid, organic, n.o.s.
(1,4-Diazabicyclooctane)
Class : 4.1
Packing group : II
Labels : 4.1
Packing instruction (cargo aircraft) : 448
Packing instruction (passenger aircraft) : 445
Remarks : ERG-Code 3L

IMDG-Code

UN number : UN 1325
Proper shipping name : FLAMMABLE SOLID, ORGANIC, N.O.S.
(1,4-Diazabicyclooctane)
Class : 4.1
Packing group : II
Labels : 4.1
EmS Code : F-A, S-G
Marine pollutant : no
Remarks : IMDG Code Segregation Group 18 – Alkalis

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), Acute toxicity (any route of exposure), Skin Corrosion or Irritation, Serious eye damage or eye irritation

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

US TSCA Inventory:	Included on Inventory.
Canada DSL Inventory List:	Included on Inventory.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	3
Flammability	4
Physical Hazards	0
PERSONAL PROTECTION	
B	

B - Safety Glasses & Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 05/26/2020

Version #: 1.1

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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