

TAED (TETRAACETYLETHYLENEDIAMINE)

Date of compilation: 23-08-2026 | Revised: 23-08-2026 | Version: 1

SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:
TAED (TETRAACETYLETHYLENEDIAMINE)
Synonyms: N,N,N',N'-Tetraacetylenethylenediamine; TAED bleach activator
CAS: 10543-57-4

Other means of identification:
Not relevant

1.2 Recommended use of the chemical and restrictions on use:
Relevant uses: Bleach activator for peroxide-based detergent and laundry formulations (reacts with hydrogen peroxide/sodium percarbonate to generate peracetic acid at low wash temperature). For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:
SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:
Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:
GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Based on currently available data, TAED does not meet the classification criteria for physical hazards (not an oxidizer, not flammable) and is of low acute toxicity; the following precautionary classification is applied by convention for respiratory/eye comfort during powder handling.

Eye Irrit. 2	Eye irritation, Category 2, H319
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335

Not classified for acute oral/dermal toxicity, skin irritation/corrosion, sensitisation, carcinogenicity, mutagenicity, reproductive toxicity or aquatic toxicity based on available data.

2.2 GHS label elements, including precautionary statements:
GHS: Warning
Hazard statements:
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.

Precautionary statements:
P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/eye protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists, get medical advice/attention.
P501: Dispose of contents/container in accordance with local/national regulations.

2.3 Other hazards which do not result in classification:
Not relevant. Not considered a PBT/vPvB substance per current assessment criteria.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:
Chemical description: Tetraacetylenethylenediamine
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 10543-57-4	Tetraacetylenethylenediamine — Eye Irrit. 2: H319; STOT SE 3: H335 – Warning	≥97%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:
Non-applicable (supplied as a technical-grade single substance; granulated/coated grades available on request – see current specification sheet).

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:
In general, no specific emergency measures are required; however, it is recommended, as good practice, to act as follows.

By inhalation:
Remove the person affected to fresh air. Seek medical attention if irritation or discomfort persists.

By skin contact:
Wash the affected area with plenty of water. Seek medical attention if irritation persists.

By eye contact:
Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Seek medical attention if irritation persists.

By ingestion/aspiration:
Rinse mouth with water. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention if large quantities are swallowed or symptoms occur.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water spray/fog, foam, dry chemical powder, carbon dioxide – select per surrounding materials.
Unsuitable: None known.

5.2 Specific hazards arising from the chemical:

Combustible solid under prolonged exposure to high heat/flame; not self-sustaining. May produce carbon monoxide, carbon dioxide and nitrogen oxides on combustion.

5.3 Special protective actions for fire-fighters:

Wear SCBA and full protective clothing when fighting fires involving this material. Cool containers with water spray if safe to do so.

Additional provisions:

Avoid creating dust clouds near ignition sources.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Avoid raising dust. Use PPE per section 8.

For emergency responders:

No special measures beyond standard PPE are required.

6.2 Environmental precautions:

Prevent large quantities from entering drains/watercourses, as a matter of good practice.

6.3 Methods and materials for containment and cleaning up:

Sweep up and collect in a suitable container for disposal or reuse. Avoid generating dust.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid generating and breathing dust. Handle with adequate local ventilation.

B. Technical recommendations for the prevention of fires and explosions:

Avoid accumulation of fine dust, which may present a limited combustible-dust hazard; keep away from open flame and ignition sources.

C. Technical recommendations on general occupational hygiene:

Do not eat, drink or smoke while handling. Wash hands after use.

D. Technical recommendations to prevent environmental risks:

Avoid unnecessary release to the environment.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	5°C
Maximum Temp.	30°C
Maximum time	24 Months (unopened, original packaging)

B. General conditions for storage:

Store in a cool, dry, well-ventilated place, away from strong oxidizers (e.g. do not co-store directly mixed with percarbonate/perborate oxidizer unless formulated per product design) and moisture. Keep containers tightly closed.

7.3 Specific end use(s):

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit is established for TAED in India.

Identification	Occupational Exposure Limit Type	Value
TAED (as total dust) CAS: 10543-57-4	Time Weighted average concentration (8 hrs)	Typical value – refer to current specification sheet

8.2 Appropriate engineering controls:

Use local exhaust/dust extraction when handling powder to minimize airborne dust.

B. Respiratory protection:

Dust mask with P1/P2 particulate filter where dust is generated.

C. Specific protection for the hands:

Protective gloves recommended for prolonged/repeated contact.

D. Eye and face protection:

Safety glasses or goggles recommended when handling powder.

E. Bodily protection:

Standard work clothing; coveralls for prolonged exposure.

F. Additional emergency measures:

Eyewash station recommended in the work area.

Environmental exposure controls:

No specific measures required beyond good housekeeping.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (powder or granules)

Appearance	White to off-white solid
Color	White
Odor	Odorless to faint characteristic odor
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	Non-applicable (solid)
Vapour pressure at 20°C / 50°C	Not relevant *
Evaporation rate at 20°C	Not relevant *
Product Description	
Density / Relative density at 20°C	Typical value – refer to current specification sheet
Dynamic / Kinematic viscosity	Non-applicable (solid)
Concentration	≥97% typical (technical grade)
pH (1% aqueous suspension)	~6.5 – 7.5 (typical, near neutral)
Vapour density at 20°C	Not relevant *
Partition coefficient n-octanol/water 20°C	Typical value – refer to current specification sheet
Solubility in water at 20°C	Low solubility, approx. 2 g/L
Decomposition temperature	Typical value – refer to current specification sheet
Melting point/freezing point	~125–130°C
Flammability	
Flash Point	Non-applicable (solid)
Flammability (solid, gas)	Combustible solid under sustained high heat; not self-igniting
Autoignition temperature	Typical value – refer to current specification sheet
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Typical value – refer to current specification sheet

* Not relevant due to the nature of the product, not providing information on the properties of its hazards.

9.2 Other information:

Explosive properties	Not relevant *
Oxidising properties	Not an oxidizer; not classified
Corrosive to metals	Not relevant *
Heat of combustion	Typical value – refer to current specification sheet
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:
Reacts with hydrogen peroxide/peroxide-releasing compounds (sodium percarbonate/perborate) to generate peracetic acid – this is the product’s intended function as a bleach activator. May react slowly with strong acids or bases.

10.2 Chemical stability:
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions:
Hydrolysis in the presence of peroxide/moisture generates peracetic acid, which carries its own hazards (irritant/oxidizing) at point of use – relevant primarily to the finished detergent formulation, not to the dry product itself.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid prolonged high heat	No special precautions	Avoid prolonged moisture exposure

10.5 Incompatible materials:

Peroxides / Percarbonate	Strong Acids	Strong Bases	Combustible Materials	Moisture
Reacts to form peracetic acid	Avoid prolonged contact	Avoid prolonged contact	No special precautions	Avoid prolonged exposure

10.6 Hazardous decomposition products:
None expected under normal storage; thermal decomposition may release oxides of carbon and nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:
Available data indicate TAED has low acute toxicity:

A. Ingestion (acute effect):
Acute toxicity classification criteria are not met based on available data. May cause mild gastrointestinal discomfort if large quantities are swallowed.

B. Inhalation (acute effect):
Dust may cause mild respiratory tract irritation.

C. Contact with skin and eyes (acute effect):
Not classified as a skin irritant. Causes eye irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):
Classification criteria are not met based on available data.

E. Sensitizing effects:
Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:
May cause respiratory irritation (H335).

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Classification criteria are not met based on available data.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
TAED CAS: 10543-57-4	LD50 oral: >2,000 mg/kg	Rat
	LD50 dermal: >2,000 mg/kg	Rabbit

SECTION 12: ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment based on available data; hydrolyses in water to acetic acid derivatives and ethylenediamine-related species.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
TAED CAS: 10543-57-4	LC50: >100 mg/L (96h)	Non-applicable	Fish
	EC50: >100 mg/L (48h)	Non-applicable	Crustacean

12.2 Persistence and degradability:

Readily hydrolyses/biodegrades under environmental conditions.

12.3 Bioaccumulative potential:

Low bioaccumulation potential expected.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	No	No

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dispose of in accordance with local and national regulations, preferably via a licensed waste handler. For packaging: recycle or dispose per local regulations once empty.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Not assigned – Non-hazardous for transport
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Not assigned – Non-hazardous for transport
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Not assigned – Non-hazardous for transport
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Public Liability Insurance Act, 1991

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

United Nations GHS (Rev. 8); publicly available chemical supplier safety data sheets for this CAS number.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Koc: Partition coefficient of organic carbon

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET