We create chemistry

Safety data sheet

1. Identification

Product identifier

Trilon® B Powder

Chemical name: tetrasodium ethylene diamine tetraacetate
CAS Number: 64-02-8

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: complexing agents for the chemical industry

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Operating Division Care Chemicals

Telephone: +49 621 60-44676
E-mail address: emd-ems-ehs-masterdata@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 4 (Inhalation - dust)

Acute Tox. 4 (oral)
Eye Dam./Irrit. 1
STOT RE (Respiratory system) 2 (by inhalation)

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H373	May cause damage to organs (Respiratory system) through prolonged or repeated exposure (inhalation).
H302 + H332	Harmful if swallowed or if inhaled

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye/face protection.
P260	Do not breathe dust/gas/mist/vapours.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

According to UN GHS criteria

Hazard determining component(s) for labelling: Tetrasodium ethylenediaminetetraacetate

Other hazards

According to UN GHS criteria

The product is under certain conditions capable of dust explosion.

3. Composition/Information on Ingredients

Substances

Chemical nature

Tetrasodium ethylenediaminetetraacetate
CAS Number: 64-02-8
EC-Number: 200-573-9
INDEX-Number: 607-428-00-2

Hazardous ingredients (GHS)
According to UN GHS criteria

Tetrasodium ethylenediaminetetraacetate

Content (W/W): >= 50 % - <= 100 %	Acute Tox. 4 (Inhalation - dust) Acute Tox. 4 (oral)
CAS Number: 64-02-8	Eye Dam./Irrit. 1
EC-Number: 200-573-9	STOT RE (Respiratory system) 2 (by inhalation)
INDEX-Number: 607-428-00-2	H318, H373, H302 + H332

Sodium hydroxide

Content (W/W): >= 0 % - < 3 %	Met. Corr. 1
CAS Number: 1310-73-2	Skin Corr./Irrit. 1A
EC-Number: 215-185-5	Eye Dam./Irrit. 1
INDEX-Number: 011-002-00-6	H290, H314
	Specific concentration limit: Skin Corr./Irrit. 1A: >= 5 % Skin Corr./Irrit. 1B: 2 - < 5 % Skin Corr./Irrit. 2: 0,5 - < 2 % Eye Dam./Irrit. 2: 0,5 - < 2 %

Trisodium nitrilotriacetate

Content (W/W): >= 0 % - < 5 %
CAS Number: 5064-31-3
EC-Number: 225-768-6
INDEX-Number: 607-620-00-6

Acute Tox. 4 (oral)
Eye Dam./Irrit. 2A
Carc. 2
Aquatic Acute 3
H319, H302, H351, H402

Specific concentration limit:
Carc. 2: >= 5 %

Glycine, N-(carboxymethyl)-N-[2-[(carboxymethyl)amino]ethyl]-, trisodium salt

Content (W/W): >= 0 % - < 10 %
CAS Number: 19019-43-3

Eye Dam./Irrit. 2A
H319

Sodium glycollate

Content (W/W): >= 0 % - < 5 %
CAS Number: 2836-32-0
EC-Number: 220-624-9

Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
H318, H315

Glycine, N,N'-1,2-ethanediylbis-, disodium salt

Content (W/W): >= 0 % - < 5 %
CAS Number: 38011-25-5

Acute Tox. 4 (oral)
Eye Dam./Irrit. 2A
H319, H302

For the classifications not written out in full in this section the full text can be found in section 16.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:
Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: respiratory disorders, corneal injury, gastrointestinal complaints, irritation of the mucous membranes

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Additional information:
Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

harmful vapours, carbon oxides, nitrogen oxides
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations. Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental Release Measures

Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Information regarding personal protective measures, see section 8.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Contain with dust binding material and dispose of.
Avoid raising dust. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Provide exhaust ventilation. Avoid inhalation of dusts.

Protection against fire and explosion:
Avoid dust formation. The product is capable of dust explosion. Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Low density polyethylene (LDPE), glass, Paper/Fibreboard, High density polyethylene (HDPE)
Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Protect from temperatures below: -20 °C
Protect from temperatures above: 70 °C

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

141-53-7: Sodium formate
1310-73-2: Sodium hydroxide
5064-31-3: Trisodium nitrilotriacetate

Exposure controls

Personal protective equipment

Respiratory protection:
Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:
Chemical resistant protective gloves (EN 374)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):
e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
Wearing of closed work clothing is recommended. Keep away from food, drink and animal feeding stuffs. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	powder	
Colour:	white	
Odour:	product specific	
pH value:	approx. 10,5 - 12,5 (10 g/l, 23 °C)	(DIN 19268)
Melting point:	The substance / product decomposes therefore not determined.	
decomposition point:	> 150 °C Literature data. The substance / product decomposes.	
Flash point:	Study scientifically not justified.	

Evaporation rate:		
	The product is a non-volatile solid.	
Flammability:	not highly flammable	(VDI 2263, sheet 1, 1.1)
Lower explosion limit:		
	For solids not relevant for classification and labelling.	
Upper explosion limit:		
	For solids not relevant for classification and labelling.	
Ignition temperature:	> 200 °C	(DIN 51794)
Vapour pressure:	6 hPa (approx. 25 °C) contains water, Literature data.	(measured)
Relative density:	1,67 (20 °C) Literature data.	
Solubility in water:		
	approx. 750 g/l	
Solubility (qualitative) solvent(s):	polar solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	-13 (20 °C)	
Thermal decomposition:	> 300 °C	
Viscosity, dynamic:		
	Study scientifically not justified.	
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.	
Minimum ignition energy:	> 4 J The product is capable of dust explosion.	(VDI 2263, sheet 1, 2.1.1)
Bulk density:	620 - 760 kg/m3	
:		
	Adsorption to solid soil phase is not expected. Under environmental conditions, the substance will almost completely be in its charged form.	
Grain size distribution:	particles < 4 µm particles < 10 µm particles < 100 µm	approx. 0,2 % approx. 1,7 % approx. 51 %

10. Stability and Reactivity

Reactivity

Corrosion to metals:	Corrodes metals in the presence of water or moisture.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
Dust explosion hazard.

Conditions to avoid
Avoid humidity. Avoid dust formation.

Incompatible materials

Substances to avoid:
amphoteric metals, light metals

Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of moderate toxicity after single ingestion. Of moderate toxicity after short-term inhalation.

Experimental/calculated data:
LD50 rat (oral): 1.000 - 2.000 mg/kg (BASF-Test)

LC50 rat (by inhalation): > 1 mg/l (other)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. An aerosol was tested.

LD50 (dermal):
Study scientifically not justified.

Irritation

Assessment of irritating effects:
Not irritating to the skin. May cause severe damage to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (BASF-Test)

Serious eye damage/irritation rabbit: irreversible damage (BASF-Test)

Respiratory/Skin sensitization

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:
In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Carcinogenicity

Assessment of carcinogenicity:
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Developmental toxicity

Assessment of teratogenicity:
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated inhalation exposure may affect certain organs. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

Not relevant.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Lepomis macrochirus (OPP 72-1 (EPA-Guideline), static)
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic invertebrates:
EC50 (48 h) > 100 mg/l, Daphnia magna (DIN 38412 Part 11, static)
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants:
EC50 (72 h) > 100 mg/l (growth rate), Scenedesmus obliquus (Directive 88/302/EEC, part C, p. 89, static)
Nominal concentration.

Microorganisms/Effect on activated sludge:
EC20 (30 min) > 500 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)
Nominal concentration. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to fish:
No observed effect concentration (35 d) >= 36,9 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through.)
The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d) 25 mg/l, Daphnia magna (OECD Guideline 211, semistatic)

Nominal concentration.
Analogous: Assessment derived from products with similar chemical character.

Soil living organisms:
LC50 (14 d) 156 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)
Analogous: Assessment derived from products with similar chemical character.

Terrestrial plants:
No observed effect concentration (21 d) 84 mg/kg, terrestrial plants (other)
Analogous: Assessment derived from products with similar chemical character.

Other terrestrial non-mammals:
Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Was found to be potentially biodegradeable.

Not readily biodegradable (by OECD criteria).

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.
Information on Stability in Water (Hydrolysis):
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Bioaccumulation potential:
Bioconcentration factor: approx. 1,8 (28 d), Lepomis macrochirus
Does not significantly accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Sum parameter

Theoretical Oxygen Demand (ThOD): 654 mg/g

Other ecotoxicological advice:
Do not release untreated into natural waters.

13. Disposal Considerations

Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

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

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Information on intended use: This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. This includes the mentioned and recommended usage. Any other intended applications should be discussed with the manufacturer. In particular this concerns the application for products that are the object of special standards and regulations.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT RE	Specific target organ toxicity — repeated exposure
Met. Corr.	Corrosive to metals
Skin Corr./Irrit.	Skin corrosion/irritation
Carc.	Carcinogenicity
Aquatic Acute	Hazardous to the aquatic environment - acute
H318	Causes serious eye damage.
H373	May cause damage to organs (Respiratory system) through prolonged or repeated exposure (inhalation).
H302 + H332	Harmful if swallowed or if inhaled
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H351	Suspected of causing cancer.
H402	Harmful to aquatic life.
H315	Causes skin irritation.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.