

## ETHYLENEDIAMINE TETRAACETIC ACID CALCIUM DISODIUM SALT

GHS Safety Data Sheet

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### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT NAME

EDTA CALCIUM DISODIUM SALT

#### OTHER NAMES

C10-H12-Ca-N2-O8-Na2, "calcium disodium edetate", "calcium disodium EDTA", "calcium disodium ethylenediaminetetraacetate", "calcium disodium (ethylenedinitrilo)tetraacetate", "calcium disodium versenate", "disodium calcium ethylenediaminetetraacetate", "edetate", "calcium disodium salt", "ethylenediaminetetraacetic acid, calcium disodium chelate", "acetic acid, (ethylenedinitrilo)tetra-, calcium disodium salt", "calcate(2-), ((ethylenedinitrilo)tetraacetato)-, disodium", "calcium titriplex"

#### PRODUCT USE

Chelator, sequestering salt, water softener.

#### SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

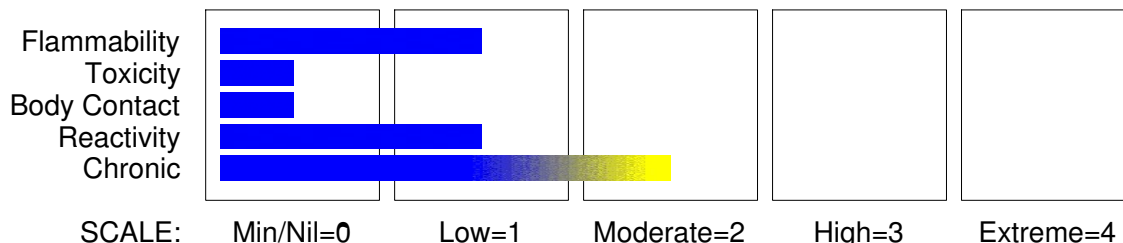
technical@sdfine.com

Telephone: 91- 22- 24959898

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#### HAZARD RATINGS



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## Section 2 - HAZARDS IDENTIFICATION

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### EMERGENCY OVERVIEW

#### HAZARD

- Not hazardous
- No hazards determined by using GHS criteria

#### PRECAUTIONARY STATEMENTS

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## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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| NAME                       | CAS RN  | %   |
|----------------------------|---------|-----|
| EDTA calcium disodium salt | 62-33-9 | >98 |

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## Section 4 - FIRST AID MEASURES

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### SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

### EYE

- If this product comes in contact with eyes:
- Wash out immediately with water.
  - If irritation continues, seek medical attention.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

- If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

### NOTES TO PHYSICIAN

Treat symptomatically.

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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.

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### Section 5 - FIRE FIGHTING MEASURES

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- BCF (where regulations permit).
- Carbon dioxide.

#### FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

#### FIRE/EXPLOSION HAZARD

- Combustible solid which burns but propagates flame with difficulty.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
- Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
- Build-up of electrostatic charge may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
- All movable parts coming in contact with this material should have a speed of less than 1-meter/sec.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), metal oxides, other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

#### FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

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### Section 6 - ACCIDENTAL RELEASE MEASURES

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#### EMERGENCY PROCEDURES

##### MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.
- Sweep up, shovel up or
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Place spilled material in clean, dry, sealable, labelled container.

##### MAJOR SPILLS

Moderate hazard.

- CAUTION: Advise personnel in area.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.
- Prevent, by any means available, spillage from entering drains or water courses.
- Recover product wherever possible.
- IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
- ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise Emergency Services.

## SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+ + + + + +

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

**Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

### SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

### STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

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## Section 7 - HANDLING AND STORAGE

### STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

#### MATERIAL DATA

These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble\* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload).

#### PERSONAL PROTECTION



#### EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

### HANDS/FEET

Suitability and durability of glove type is dependent on usage. Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity,

are important in the selection of gloves.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

### OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

### RESPIRATOR

| Protection Factor | Half- Face Respirator | Full- Face Respirator | Powered Air Respirator |
|-------------------|-----------------------|-----------------------|------------------------|
| 10 x ES           | P1 Air- line*         | - -                   | PAPR- P1 -             |
| 50 x ES           | Air- line**           | P2                    | PAPR- P2               |
| 100 x ES          | -                     | P3                    | -                      |
|                   |                       | Air- line*            | -                      |
| 100+ x ES         | -                     | Air- line**           | PAPR- P3               |

\* - Negative pressure demand \*\* - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult

your

Occupational Health and Safety Advisor.

### ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
  - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
  - (b): filter respirators with absorption cartridge or canister of the right type;
  - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and

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### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

grounding.

· Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)  
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

Air Speed:

1- 2.5 m/s (200- 500 f/min.)

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

#### APPEARANCE

White crystalline powder; mixes with water.

#### PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: 374.28

Melting Range (°C): >300

Solubility in water (g/L): Miscible

pH (1% solution): Not available

Volatile Component (%vol): Negligible

Boiling Range (°C): Not available

Specific Gravity (water=1): Not available

pH (as supplied): Not applicable

Vapour Pressure (kPa): Negligible

Evaporation Rate: Not applicable

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## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Relative Vapour Density (air=1): Not applicable  
Lower Explosive Limit (%): Not available  
Autoignition Temp (°C): Not available  
State: Divided solid

Flash Point (°C): Not available  
Upper Explosive Limit (%): Not available  
Decomposition Temp (°C): Not available  
Viscosity: Not Applicable

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

## Section 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

##### SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

##### EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

##### SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

##### INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

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## Section 11 - TOXICOLOGICAL INFORMATION

### CHRONIC HEALTH EFFECTS

Sequestering agents are occasionally used in therapies for various forms of poisoning and are normally injected intravenously. A systemic reaction known as the "excessive chelation syndrome" consists mainly of malaise, fatigue, thirst and parathesias, followed by chills and fever. Myalgia, headache, anorexia, nausea and occasionally marked urinary frequency and urgency may also occur. Minor reactions resembling those produced by histamine or the common cold are sometimes seen.

Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness. Lung shadows show on X-ray.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Parenteral administration of EDTA and its salts in high doses may produce severe renal lesions with tubular necrosis, internal haemorrhage, transient bone marrow depression and life-threatening hypocalcaemia. Prolonged parenteral exposures produce electrolyte imbalance and possible cardiac arrhythmias.

Prolonged or repeated skin contact may result in irritation. EDTA and its metal salts do not permeate the cellular membrane to a significant extent; they remain in the extracellular fluid until excreted. (ILO Encyclopaedia)

NOTE: Conflicting animal test data is available with regard to the teratogenic potential of EDTA sodium salts. Some data indicate that teratogenic effects may occur at extremely high maternal doses.

### TOXICITY AND IRRITATION

#### TOXICITY

Oral (rat) LD50: 10000 mg/kg

Intravenous (rat) LD50: 3000 mg/kg

Intraperitoneal (rat) LD50: 3850 mg/kg

#### IRRITATION

Nil Reported

## Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

## Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,  
IMDG

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## Section 14 - TRANSPORTATION INFORMATION

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## Section 15 - REGULATORY INFORMATION

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### REGULATIONS

EDTA calcium disodium salt (CAS: 62-33-9) is found on the following regulatory lists;  
International Council of Chemical Associations (ICCA) - High Production Volume List  
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for EDTA calcium disodium salt as CAS: 39208-14-5, CAS: 5297-15-4, CAS: 12558-50-8, CAS: 12002-29-8, CAS: 7732-93-6, CAS: 5639-01-0, CAS: 68162-45-8, CAS: 35-00-7, CAS: 108703-54-4, CAS: 100333-49-1, CAS: 1282-71-9, CAS: 69843-95-4, CAS: 74011-06-6, CAS: 1288-07-9, CAS: 50322-17-3, CAS: 19067-42-6, CAS: 56532-88-8, CAS: 57131-51-8, CAS: 61864-74-2, CAS: 63042-69-3.

## Section 16 - OTHER INFORMATION

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### INGREDIENTS WITH MULTIPLE CAS NUMBERS

| Ingredient Name            | CAS                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EDTA calcium disodium salt | 62- 33- 9, 39208- 14 - 5, 5297- 15- 4, 12558- 50- 8, 12002- 29- 8, 7732- 93- 6, 5639- 01- 0, 68162- 45- 8, 35- 00- 7, 108703- 54- 4, 100333- 49- 1, 1282- 71- 9, 69843- 95- 4, 74011- 06- 6, 1288- 07- 9, 50322- 17- 3, 19067- 42- 6, 56532- 88- 8, 57131- 51- 8, 61864- 74- 2, 63042- 69- 3 |

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