



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Ethylenediaminetetraacetic acid, ACS reagent, 99.4-100.06%
Product Number E9884
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
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Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
ETHYLENEDIAMINETETRAACETIC ACID	60-00-4	No	200-449-4	

Formula C10H16N2O8
Synonyms Acide ethylenediaminetetracetique (French), Celon A, Celon ATH, Cheelox, Cheelox BF acid, Chemcolox 340, Clewat TAA, Complexon II, 3,6-Diazaoctanedioic acid, 3,6-bis(carboxymethyl), Edathamil, Edetic acid, EDTA, EDTA (chelating agent), EDTA acid, Endrate, N,N'-1,2-Ethanedilybis(N-(carboxymethyl)glycine), Ethylenediaminetetraacetate, Ethylenediaminetetraacetic acid, Ethylenediamine-N,N,N',N'-tetraacetic acid, Ethylenedinitrilotetraacetic acid, Gluma cleanser, Glycine, N,N'-1,2-ethanedilybis(N-(carboxymethyl)- (9CI), Hamp-ene acid, Havidote, ICRF 185, Komplexon II, Kyselina ethylenediamintetraoctova (Czech), Metaquest A, Nervanoid B acid, Nullapon B acid, Nullapon BF acid, Perma Kleer 50 acid, Questex 4H, SEQ 100, Sequestrene AA, Sequestric acid, Sequestrol, Tetrine acid, Titriplex, Trilon BS, Trilon BW, Versene acid, Vinkel 100, Warkeelate acid, YD 30

Section 3 - Hazards Identification

Emergency Overview
Irritant.
Irritating to eyes, respiratory system and skin.

HMIS Rating
Health: 2 Flammability: 0 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable
Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable
Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory
Government approved respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color White	Form Powder
Molecular Weight:	292.24 AMU	
pH	2.5	23 °C
BP/BP Range	N/A	Concentration: 10 g/l
MP/MP Range	250 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	Log Kow: -3.34	
Decomposition Temp.	N/A	
Flash Point °F	N/A	
Flash Point °C	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Solubility	Solvent: 0.1M in NaOH 1M, 20°C, complete, colorless	

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable.

Materials to Avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Sensitization

Sensitization

Will not occur

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: AH4025000

Toxicity Data

Oral - Rat: 4,000 mg/kg(LD50)

Oral - Rat: 2,580 mg/kg(LD50)

Intraperitoneal - Rat: 397 MG/KG (LD50)

Remarks: Behavioral: Convulsions or effect on seizure threshold.

Oral - Mouse: 30 mg/kg (LD50)

Intraperitoneal - Mouse: 250 MG/KG (LD50)

Intravenous - Mouse: 28500 UG/KG (LD50)

Irritation Data

Skin - Rabbit:

Remarks: No irritation effect

Eyes - Rabbit:

Remarks: Moderate irritation effect

Chronic Exposure - Teratogen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	7632 MG/KG	Oral	(7-14D PREG)
Result: Specific Developmental Abnormalities: Eye, ear.			
Specific Developmental Abnormalities: Craniofacial (including nose and tongue).			
Specific Developmental Abnormalities: Musculoskeletal system.			
Rat	7632 MG/KG	Oral	(7-14D PREG)
Result: Specific Developmental Abnormalities: Cardiovascular (circulatory) system.			
Specific Developmental Abnormalities: Respiratory system.			
Specific Developmental Abnormalities: Urogenital system.			

Chronic Exposure - Mutagen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Cell Type</u>	<u>Mutation test</u>
Rat	600 UMOL/L		Other cell types	DNA inhibition
Mouse	186 MG/KG	Intraperitoneal		Micronucleus test
Mouse	15 MG/KG	Oral		Micronucleus test
Mouse	40500 UMOL/L		lymphocyte	DNA damage
Mouse	50 MMOL/L	Intraperitoneal		Cytogenetic analysis
Mouse	25200 UMOL/L		lymphocyte	Mutation in mammalian somatic cells.
Hamster	100 UMOL/L		Embryo	Unscheduled DNA synthesis
Hamster	500 UG/L		fibroblast	DNA inhibition
Hamster	30 UMOL/L		Embryo	Sister chromatid exchange
Rabbit	250 UMOL/L		kidney	DNA inhibition

Chronic Exposure - Reproductive Hazard

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	7632 MG/KG	Oral	(7-14D PREG)
			Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
Rat	3 GM/KG	Subcutaneous	(7-14D PREG)
			Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Section 12 - Ecological Information

Acute Ecotoxicity Tests

Test Type

EC50 Daphnia

Species

Daphnia magna

Time: Value:
48.0 h 113 mg/l

Test Type

LC50 Fish

Species

Lepomis macrochirus (Bluegill)

Time: Value:
96.0 h 34 - 62 mg/l

Test Type

LC50 Fish

Species

Pimephales promelas (Fathead minnow)

Time: Value:
96.0 h 44.2 - 76.5 mg/l

Additional Results/Data from Relevant Scientific Experiments

May be harmful to aquatic organisms due to the shift of the pH. Avoid contamination of the environment

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements R: 36

Irritating to eyes.

Safety Statements S: 26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to eyes, respiratory system and skin.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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