Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15.12.2023	*Version: 7.3*	*Print date: 15.12.2023*

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name/designation:	EDTA (Ethylenediamine tetraacetic acid) ULTRA PURE
Product No.:	0322
CAS No.:	60-00-4
Index No.:	607-429-00-8
EU REACH No.:	A registration number is not available for this substance as the substance or its use is exempted from registration according to REACH Article 2 or the annual tonnage does not require a registration.
Other means of identification:	Edetic acid, Ethylenedinitrilotetra-acetic acid, Idranal® II, Kestranal® A

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

Relevant identified uses:	General chemical reagent
Uses advised against:	The product, as such or as a component of a mixture, is not intended to be used by consumers (as defined by the REACH Regulation).

1.3 Details of the supplier of the safety data sheet

Ireland

VWR International Ltd.

Street	Orion Business Campus, Northwest Business Park
Postal code/City	Ballycoolin, Dublin 15
Telephone	+353 1 8822222
Telefax	+353 1 8822333
E-mail (competent person)	SDS@avantorsciences.com

1.4 Emergency phone number

Telephone	+44 (0) 1270 502894 (CareChem24)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements
Eye irritation, category 2	H319

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

Signal word: Warning

Hazard statements	
H319	Causes serious eye irritation.

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face 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.

2.3 Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

This product does not contain a substance that has endocrine disrupting properties.

SECTION 3: Composition / information on ingredients

3.1 Substances

Substance name:	EDTA (Ethylenediamine tetraacetic acid)
Molecular formula:	C10H16N2O8
Molecular weight:	292.25 g/mol
CAS No.:	60-00-4
EU REACH registration No.:	A registration number is not available for this substance as the substance or its use is exempted from registration according to REACH Article 2 or the annual tonnage does not require a registration.
EC No.:	200-449-4
ATE, SCL and/or M-factor:	none

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove victim out of the danger area. Do not leave affected person unattended. Change contaminated, saturated clothing.

After inhalation

Remove casualty to fresh air and keep warm and at rest. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

In case of ingestion

Rinse mouth immediately and drink plenty of water.

Self-protection of the first aider

First aider: Pay attention to self-protection! Use personal protection equipment.

4.2 Most important symptoms and effects, both acute and delayed

After eye contact: Irritation. Conjunctival redness. After skin contact: No information available. After ingestion: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No special information on medical attention and special treatment available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

ABC-powder
Carbon dioxide (CO_2).
Dry sand
Nitrogen

Extinguishing media which must not be used for safety reasons

Water spray.
Full water jet

5.2 Special hazards arising from the substance or mixture

Combustible substance.
This material is combustible, but will not ignite readily.
Fire may produce irritating, corrosive and/or toxic gases.
In case of fire may be liberated:
Carbon monoxide

Carbon dioxide (CO_2).
Nitrogen oxides (NOx)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.
Co-ordinate fire-fighting measures to the fire surroundings.
In case of fire: Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Stop leak if safe to do so. First Aid, decontamination, treatment of symptoms. For emergency responders: This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment). Wear fire/flame resistant/retardant clothing. Wear full chemical protective clothing. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

6.2 Environmental precautions

No special measures are necessary.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Dispose according to local legislation.

6.4 Reference to other sections

Personal protection equipment: see section 8 SECTION 13. Information regarding the disposal of the products

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling
Wear personal protection equipment (refer to section 8).
Avoid contact with eyes and skin.
Measures to prevent fire, aerosol and dust generation
No special measures are necessary.
Measures required to protect the environment
No special measures are necessary.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: Store between 15 °C and 30 °C. (Storage conditions determined by quality aspects.)
Storage class: 10-13
Storage: Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container. Suitable container/equipment material: Glass Polyethylene (PE) Unsuitable container/equipment material: No further relevant information available.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Source	Country	parameter	Limit value	Remark
EDTA (Ethylenediamine tetraacetic acid)	DNEL	EU	Worker, Inhalation, long-term, local	1.5 mg/m³	Overall assessment factor (AF): 2
EDTA (Ethylenediamine tetraacetic acid)	DNEL	EU	Worker, Inhalation, long-term, systemic	1.5 mg/m³	Overall assessment factor (AF): 2
EDTA (Ethylenediamine tetraacetic acid)	DNEL	EU	Worker, Inhalation, short-term, local	3 mg/m³	Overall assessment factor (AF): 1
EDTA (Ethylenediamine tetraacetic acid)	DNEL	EU	Worker, Inhalation, short-term, systemic	3 mg/m³	
EDTA (Ethylenediamine tetraacetic acid)	PNEC	EU	aquatic, freshwater	2.17 mg/l	Assessment factor: 10
EDTA (Ethylenediamine tetraacetic acid)	PNEC	EU	aquatic, marine water	0.217 mg/l	Assessment factor: 100
EDTA (Ethylenediamine tetraacetic acid)	PNEC	EU	Sewage treatment plant	50 mg/l	Assessment factor: 10
EDTA (Ethylenediamine tetraacetic acid)	PNEC	EU	soil	1.11 mg/kg	soil dw

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.2.2 Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms EN 166
Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms EN ISO 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time::	240-480 min
Recommended glove articles:	VWR 112-0998

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time::	> 480 min
Recommended glove articles:	VWR 112-3717 / 112-1381

Respiratory protection

Usually no personal respirative protection necessary. Required when dusts are generated. Generation/formation of dust

Suitable respiratory protection apparatus:	Filtering Half-face mask (EN 149)
Recommendation:	VWR 111-0451
Suitable material:	P3
Recommendation:	VWR 111-0244

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.2.3 *Environmental exposure controls*

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	solid
Colour:	white
Odour:	no data available

Safety relevant basic data

pH:	2.8 (10 g/l; H2O; 23 °C)
Melting point/freezing point:	220 °C
Initial boiling point and boiling range:	614 °C (1013 hPa)
Flash point:	> 100 °C
Flammability:	not applicable
Lower and upper explosion limit	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
Vapour pressure:	< 0.013 hPa (20 °C)
Relative vapour density:	no data available
Density and/or relative density	
Density:	0.86 g/cm³ (20 °C)
Solubility(ies)	
Water solubility:	500 mg/l (20 °C)
Partition coefficient: n-octanol/water:	-0.43 (20 °C)
Auto-ignition temperature:	> 200 °C (DIN 51794)
Decomposition temperature:	220 °C (1013 hPa)
Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
Particle characteristics:	no nanoform

9.2 Other information

Evaporation rate:	no data available
Explosive properties:	no data available
Oxidising properties:	not applicable
Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reaction with:
Strong alkali
Oxidising substances

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials:

No further relevant information available.

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute effects
Acute oral toxicity:
LC50: 4500 mg/kg - Rat - (OECD 401)

Acute dermal toxicity:
no data available

Acute inhalation toxicity:
no data available

Irritant and corrosive effects:
Primary irritation to the skin:
not applicable

Irritation to eyes:
Causes serious eye irritation.

Irritation to respiratory tract:
not applicable

Respiratory or skin sensitisation
In case of skin contact: not sensitising
After inhalation: not sensitising

STOT-single exposure
not applicable

STOT-repeated exposure
not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

11.2 Information on other hazards

This substance does not have endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information

12.1 Toxicity

Fish toxicity:

LC50: < > 100 mg/l (96 h) - Oncorhynchus mykiss - ECHA

Daphnia toxicity:

no data available

Algae toxicity:

no data available

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: -0.43 (20 °C)

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to the environment.

12.7 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

European waste management legislation
Directive 2008/98/EC (Waste Framework Directive)

National waste management legislation
Act No. 10/1996 - Waste Management Act, 1996
Act No. 36/2001 - Waste Management (Amendment) Act, 2001

SECTION 14: Transport information

Land transport (ADR/RID)

14.1	UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2	UN proper shipping name:	not assigned
14.3	Transport hazard class(es):	none
14.4	Packing group:	not assigned
14.5	Environmental hazards**:**	none
14.6	Special precautions for user:	none

Sea transport (IMDG)

14.1	UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2	UN proper shipping name:	not assigned
14.3	Transport hazard class(es):	none
14.4	Packing group:	not assigned
14.5	Environmental hazards**:**	none
14.6	Special precautions for user:	none
14.7	Maritime transport in bulk according to IMO instruments	not relevant

Air transport (ICAO-TI / IATA-DGR)

14.1	UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2	UN proper shipping name:	not assigned
14.3	Transport hazard class(es):	none
14.4	Packing group:	not assigned
14.5	Special precautions for user:	none

SECTION 15: Regulatory information

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

EU legislation

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance)
- Commission Regulation (EU) 2020/878 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

National regulations

no data available

Water hazard class: hazardous to water (WGK 2)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygiensts
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
DNEL - Derived No Effect Level
Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
KOSHA - Korea Occupational Safety and Health Agency
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PNEC - Predicted No Effect Concentration
RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
STV - Short Term Value
SVHC - Substances of Very High Concern
vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

Key literature references and sources for data
This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Additional information

Indication of changes	Implementation: Commission Regulation (EU) 2020/878 If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.