according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



Ethylenediamine tetraacetic acid tetrasodium salt hydrate 86-88 %

article number: 3619 date of compilation: 2015-06-12 Version: 2.0 en Revision: 2018-04-26

Replaces version of: 2015-06-12

Version: (1)

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

Product identifier 1.1

Identification of the substance Ethylenediamine tetraacetic acid tetrasodium

salť

Article number 3619

Registration number (REACH) 01-2119486762-27-xxxx

Index No 607-428-00-2 EC number 200-573-9

64-02-8 CAS number

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

Identified uses: laboratory chemical

laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

> Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe

Germany

Telephone: +49 (0) 721 - 56 06 0 Telefax: +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data : Department Health, Safety and Environment

sheet

e-mail (competent person) : sicherheit@carlroth.de

1.4 **Emergency telephone number**

> **Emergency information service** Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1

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

Classification acc. to GHS **Section Hazard class** Hazard class and cat-Hazard egory statement 3.10 H302 acute toxicity (oral) (Acute Tox. 4) 3.1I acute toxicity (inhal.) (Acute Tox. 4) H332 3.3 H318 serious eye damage/eye irritation (Eye Dam. 1) specific target organ toxicity - repeated exposure (STOT RE 2) H373 3.9

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2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word Danger

Pictograms







Hazard statements

H302+H332 Harmful if swallowed or if inhaled H318 Causes serious eye damage

H373 May cause damage to organs (respiratory tract) through prolonged or repeated

exposure (if inhaled)

Precautionary statements

Precautionary statements - prevention

P261 Avoid breathing dust.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/eye protection.

Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Symbol(s)







H318 Causes serious eye damage.

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 rinsina.

P310 Immediately call a POISON CENTER/doctor.

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Ethylenediamine tetraacetic acid tetrasodium salt

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Registration number (REACH) 01-2119486762-27-xxxx

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Molecular formula $C_{10}H_{12}N_2Na_4O_8*xH_2O$ Molar mass $380.2 \, ^g/_{mol}*XH_2O$

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Rinse mouth immediately and drink plenty of water. Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Gastrointestinal complaints, Vomiting, Nausea, Breathing difficulties, Risk of serious damage to eyes

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

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5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Do not breathe dust. Avoid contact with skin and eyes. Provide adequate ventilation.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide adequate ventilation. Avoid dust formation.

• Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Ventilation requirements

Use local and general ventilation.

• Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Coun- try	Name of agent	CAS No	Nota- tion	Identifier	TWA [mg/m³]	STEL [mg/m³]	Source
GB	dust		i	WEL	10		EH40/2005
GB	dust		r	WEL	4		EH40/2005

Notation

i Inhalable fraction

r Respirable fraction
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-

minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8

hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	2.5 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	2.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	3 mg/m³	human, inhalatory	worker (industry)	acute - local effects
DNEL	1.5 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

• environmental values

Endpoint	Threshold level	Environmental compartment
PNEC	2.2 ^{mg} / _l	freshwater
PNEC	0.22 ^{mg} / _l	marine water
PNEC	43 ^{mg} / _l	sewage treatment plant (STP)
PNEC	0.72 ^{mg} / _{kg}	soil
PNEC	1.2 ^{mg} / _l	water

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

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Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

· breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state solid (powder)

Colour white

Odour characteristic

Odour threshold No data available

Other physical and chemical parameters

pH (value) $10.5 - 12.5 (10 \,^{9}/_{l}, 23 \,^{\circ}\text{C})$ Melting point/freezing point no information available

Initial boiling point and boiling range This information is not available.

Flash point not applicable

Evaporation rate no data available

Flammability (solid, gas)

These information are not available

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Explosive limits

• lower explosion limit (LEL) this information is not available

• upper explosion limit (UEL) this information is not available

Explosion limits of dust clouds these information are not available

Vapour pressure This information is not available.

Density 1.67 ^g/_{cm³} at 20 °C

Vapour density This information is not available.

Relative density Information on this property is not available.

Solubility(ies)

Water solubility $\sim 580 \, ^{\rm g}/_{\rm l}$ at 20 °C

Partition coefficient

n-octanol/water (log KOW) -13 (TOXNET)

Auto-ignition temperature >200 °C

Decomposition temperature >150 °C

Viscosity not relevant (solid matter)

Explosive properties Shall not be classified as explosive

Oxidising properties none

9.2 Other information

Temperature class (EU, acc. to ATEX)

T3 (Maximum permissible surface temperature

on the equipment: 200°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Dust explosibility.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser, Aluminium, Copper, Nickel

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >150 °C.

10.5 Incompatible materials

different metals

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	1,780 ^{mg} / _{kg}	rat	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

• Specific target organ toxicity - repeated exposure

May cause damage to organs (respiratory tract) through prolonged or repeated exposure (if inhaled).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

gastrointestinal complaints, nausea, vomiting

• If in eyes

strongly irritant, corneal opacity, risk of serious damage to eyes

• If inhaled

Irritating to respiratory system, breathing difficulties

• If on skin

causes slight to moderate irritation

Other information

None

SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	>100 ^{mg} / _l	bluegill (Lepomis macrochirus)	96 h

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Aquatic toxicity (chronic)

Endpoint	Value	Species	Method	Exposure time
EC50	>100 ^{mg} / _I	daphnia magna		48 h
EC50	>100 ^{mg} / _I	Scenedesmus obliquus		72 h
NOEC	>35 ^{mg} / _l	striped brill (Brachy- danio rerio)	OECD-210	35 d
NOEC	25 ^{mg} / _l	daphnia magna	OECD-210	21 d

12.2 Process of degradability

Theoretical Oxygen Demand with nitrification: Theoretical Oxygen Demand: 654 $^{\rm mg}$ / $_{\rm g}$ Theoretical Carbon Dioxide: Biochemical Oxygen Demand: 20 $^{\rm mg}$ / $_{\rm g}$

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) -13

BCF 1.8

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Sewage disposal-relevant information

Do not empty into drains.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

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SECTION 14: Transport information

14.1 UN number (not subject to transport regulations)

14.2 UN proper shipping name not relevant

14.3 Transport hazard class(es) not relevant

Class -

14.4 Packing group not relevant

14.5 Environmental hazards none (non-environmentally hazardous acc. to the danger-

ous goods regulations)

14.6 Special precautions for user

There is no additional information.

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

The cargo is not intended to be carried in bulk.

- 14.8 Information for each of the UN Model Regulations
 - Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR, RID and ADN.

• International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

• International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)
 - Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) Not listed.
 - Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) Not listed.
 - Regulation 850/2004/EC on persistent organic pollutants (POP)

Not listed.

Restrictions according to REACH, Annex XVII

Name of substance	CAS No	Wt%	Type of registration	No
Ethylenediamine tetraacetic acid tet- rasodium salt		100	1907/2006/EC annex XVII	3

• List of substances subject to authorisation (REACH, Annex XIV)

not listed

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Seveso Directive

2012/18/EU (Seveso III)					
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes		
	not assigned				

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and **Transfer Register (PRTR)**

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

Australian Inventory of Chemical Substances Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) Domestic Substances List (DSL) AICS CICR CSCL-ENCS DSL ECSI

EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances IECSC

INSQ KECI Korea Existing Chemicals Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances
REACH Reg. REACH registered substances

TCSI TSCA Taiwan Chemical Substance Inventory

Toxic Substance Control Act

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15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

16.1 Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1	Classification according to Regulation (EC) No 1272/2008 (CLP): GHS chapter - Hazard class and category - Hazard statement code(s)	Classification according to Regulation (EC) No 1272/2008 (CLP)	yes
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1	Classification according to Directive 1999/45/EC (DPD): Indication(s) of danger - Symbol codes - R-Phrases		yes
2.1		Classification according to Directive 1999/45/EC (DPD): change in the listing (table)	yes
2.1	Remarks: For full text of R-phrases: see SECTION 16.		yes
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		• environmental values: change in the listing (table)	yes
14.8		• International Civil Aviation Organization (ICAO-IATA/DGR): Not subject to ICAO-IATA.	yes

Abbreviations and acronyms

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Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU Regulation (EC) No. 1272/2008 (CLP, EU GHS)
 Dangerous Goods Regulations (DGR) for the air transport (IATA)
 International Maritime Dangerous Goods Code (IMDG)

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List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H302	harmful if swallowed
H318	causes serious eye damage
H332	harmful if inhaled
H373	may cause damage to organs (respiratory tract) through prolonged or repeated exposure (if inhaled)

Disclaimer

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.

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