

Safety Data Sheet

SDS acc. Hazard Communication Standard

 REF: 740391.1000
 Buffer ENDO-EF (1000 mL)
 Page: 1/10

 Printing Date: 04.04.2023
 Date of Issue: 24.10.2022
 Version: 2.2.2.5

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

1.1 Product Identifier / Product Name

REF 740391.1000

Product Name Buffer ENDO-EF (1000 mL)

1 x 1000 mL ENDO-EF

1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

Uses advised against

not described

1.3 Details of the Supplier and of the Safety Data Sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG Valencienner Str. 11, 52355 Düren, Germany

Phone: +49 2421 969 0 E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency Telephone Number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.

USA: American Association Of Poison Control Centers

Rockville, MD 20857. tel. 1-800-222-1222, https://www.poisonhelp.org

DE: Gemeinsames Giftinformationszentrum (GGIZ)

99089 Erfurt tel. +49 361 730 730

https://www.ggiz-erfurt.de

You find our current versions of SDS in Internet:

http://www.mn-net.com/SDS>

SECTION 2: Hazard(s) Identification

2.0 Classification of the complete Product



GHS02

Signal Word WARNING

Hazard Identification Hazard Classes/Categories

H226 Flam. Liq. 3 H412 Aquatic Chronic 3

2.1 Classification of the substance or mixture

1000 mL ENDO-EF



Signal Word

WARNING

Hazard Identification Hazard Classes/Categories

H226 Flam. Liq. 3 H412 Aquatic Chronic 3



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List of H phrases: see section 16.2

2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identificator(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012). Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

1000 mL ENDO-EF



Signal Word: WARNING

H226, H412

Flammable liquid and vapor Harmful to aquatic life with long lasting effects.

P210, P273

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid release to the environment.

Label elements of the complete product



Signal Word: WARNING

H226, H412

Flammable liquid and vapor. Harmful to aquatic life with long lasting effects.

P210, P273

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid release to the environment.

2.3 Other Hazards

Possible Hazards from physicochemical Properties

Flammable properties. Vapour forms explosive mixtures with air.

Information pertaining to particular Risks to Human and possible Symptoms

Information pertaining to particular Risks to the Environment

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

PBT: not applicable vPvB: not applicable

Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

1000 mL ENDO-EF

Substance name: potassium chloride

CAS No.: 7447-40-7

Substance rating: No criteria for classification or naming of chemical is not required.

Chemical Formula: KCl Synonyms (de): KCl

RÉACH Reg. No.: 01-2119539416-36-xxxx

EC No.: 231-211-8 Concentration: 1 - <10 %

acc. GHS: The criteria for classification are not fulfilled.



Software: M2 V 6.1.1.5

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Substance name: chemicals/mixture until 1%

CAS No.:

Substance rating: No criteria for classification or naming of chemical is not required.

Concentration: 0,1 - <1 %

acc. GHS: The criteria for classification are not fulfilled.

Substance name: *ethanol* CAS No.: *ethanol* 64-17-5

(denatured with 1% 2-butanone)

Substance rating: H225, Flam. Liq. 2 Chemical Formula: C_2H_6O , C_2H_5OH

Synonyms (de): Äthylalkohol, vergällter Spiritus REACH Reg. No.: 01-2119457610-43-xxxx

EC No.: 200-578-6 Indice No.: 603-002-00-5

Concentration: 5 - <20 % acc. GHS: H226, Flam. Liq. 3

Substance name: Triton® X-114
CAS No.: 9036-19-5

Substance rating: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H410, Aquatic Chronic 1

Chemical Formula: C 30 H 54 O 9

Synonyms (de): PEG(7-8)p-t-octylphenol, Octaphenolpoly(ethylenglycolether)

SVHC listed: listed (19/12/2012) Cand. Lst. REACH Art59(10)+Annex XIV No. 42 (-2023)

EC No.: 232-658-1 Concentration: 0,25 - <2,5 %

acc. GHS: H412, Aquatic Chronic 3

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.List of Hazard and Precaution phrases: see section 16.2.

SECTION 4: First-Aid Measures

4.1 Description of First-Aid Measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

4.1.1 After SKIN Contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of Vapors

After inhalation of foam or vapor fresh air should be inhaled. Keep airways free.

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important Symptoms and Effects, both acute and delayed

4.3 Indication of any immediate Medical Attention and Special Treatment needed

SECTION 5: Fire-Fighting Measures

5.1 Extinguishable Media

5.1.1 Suitable extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.



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CHEREY-NAGE



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5.1.2 Unsuitable extinguishing media

5.2 Special Hazards arising from the Substance or Mixture

WARNING: Flammable. May form explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible.

5.3 Advice for Firefighters

The substance/mixture is flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting.

5.4 Additional Information

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. Keep product away from sources of ignition - No smoking. Regular staff training is necessary.

6.2 **Environmental Precautions**

Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

PRT. not applicable vPvB: not applicable

6.3 Methods and Material for Containment and Cleaning up

Bind any escaping liquid with inert absorbent.

Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package allows a safe storage. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3 Water hazard class (DE):

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

7.3 Specific End Use(s)

Product for analytical use.

SECTION 8: Exposure Controls/Personal Protection

8.1 **Control Parameters**

1000 mL ENDO-EF

potassium chloride CAS No.: 7447-40-7 Chemical:

Chemical: chemicals/mixture until 1% CAS No.: -

Chemical: ethanol CAS No.: 64-17-5

[derm] 343 mg/kg; [inh] 950 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0.96 mg/L PNEC = Predicted No Effected Concentration

NIOSH: [TWA] 1000 ppm / 1900 mg/m² [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: 1000 ppm / 1900 mg/m³



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Chemical: Triton® X-114 CAS No.: 9036-19-5

8.2 Exposure Controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory Protection

No additional recommendations.

8.2.2 Skin protection / Hand protection

Yes, gloves (permeation time >30 min - level 2), consist of PVC.

8.2.3 Eye / Face Protection

Yes, Splash Goggles.

8.2.4 Skin Protection

Recommended.

8.2.5 Hygiene Measures

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

8.2.6 Thermal hazards

data not available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

1000 mL ENDO-EF

a) State of aggregation: b) Color: colorless c) Odor: alcoholic d) Melting Point: data not available e) Boiling Point: data not available f) Flammability: data not available g) Explosive Limits (lower / upper): h) Flash Point: data not available 39 °C i) Autoignition Temperature: data not available j) Decomposition Temperature: data not available k) pH Value: 6-7 I) Kinematic Viscosity: data not available m) Soluble in Water: data not available n) Partition Coefficient (o/w): data not available o) Vapor Pressure (68°F): data not available p) Specific Gravity: 1.04 g/cm³ q) Relative Vapor Density (air=1): data not available r) Particle Size: data not available

9.2 Further Information

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required. **Properties relevant to substance groups**

SECTION 10: Stability and Reactivity

10.1 Reactivity

No further data available.



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10.2 Chemical Stability

no known instability.

10.3 Possibility of Hazardous Reactions

But avoid reactions with oxidizing agents. No further data available.

10.4 Conditions to avoid

But formation of explosive gases/vapours with air is possible. Use only in well ventilated rooms. No more required.

10.5 Incompatible Materials

Avoid storage with oxidizing substances. ---

10.6 Hazardous Decomposition Products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

Following information is valid for pure chemicals. Quantitative data on the toxicity of this product are not available.

1000 mL ENDO-EF

Chemical: potassium chloride CAS No.: 7447-40-7

TSCA Inventory: listed LD50 _{orl rat}: 2600 mg/kg

Chemical: chemicals/mixture until 1% CAS No.: -

TSCA Inventory: all listed, <1%

Chemical: ethanol CAS No.: 64-17-5

TSCA Inventory: listed California Prop. 65 List: not listed

ACGIH: 1000 ppm

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system

Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;

liver damage; anemia; reproductive, teratogenic Canada CEPA 1999: DSL yes

 Canada CÉPA 1999:
 DSL yes

 LD50 orl rat :
 6200 mg/kg

 LC_Low ihl gpg :
 21,900 mg/L

 LC_Low orl hmn :
 1400 mg/kg

 LC50 ihl mus :
 123,4 mg/L/4H

 LC50 ihl rat :
 115,9-133,8 mg/L/4H

LD50 _{orl mus}: 3450 mg/kg

Chemical: Triton® X-114 CAS No.: 9036-19-5

TSCA Inventory: listed

11.2 Other Hazards

Possible endocrine disrupting effects

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Other Information

no additional data available

SECTION 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

1000 mL ENDO-EF

Chemical: potassium chloride CAS No.: 7447-40-7



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Chemical: chemicals/mixture until 1% CAS No.: -

Chemical: ethanol CAS No.: 64-17-5

PNEC (fresh water): 0.96 mg/L
PNEC = Predicted No Effected Concentration

 LC50 daphnia magna/48h :
 >100 g/L

 LC50 pimephales promelas/96h :
 13.4-15.1 g/L

 LC50 leuciscus idus/96h :
 [48h] 8.14 g/L

 LC50 fish/96h :
 13 g/L

 EC50 daphnia/48h :
 9.3-14.2 g/L

 IC50 scenedesmus quadricauda/72h :
 [7d] 5000 mg/L

 EC10 pseudomonas putita/16h :
 [EC5] 6500 mg/L

Partition Coefficient (o/w): -0,31

Chemical: Triton® X-114 CAS No.: 9036-19-5

Harmful to aquatic life with long lasting effects. Avoid contact of chemical/mixture to environment.

Environmental hazards must not be labelled with P phrases until 125 mL (EU-CLP 1272/2008 Annex I - 1.5.2).

12.2 Persistence and Degradability

not necessary

12.3 Bioaccumulative Potential

not necessary

12.4 Mobility in Soil

not necessary

12.5 Results of PBT and vPvB Assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Endocrine disrupting properties

This substance/mixture contains components considered to have endocrinedisrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other Adverse Effects

no additional data available

SECTION 13: Disposal Considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport Information

14.1 - 14.4: No dangerous goods according the Transport regulations (Ethanol: ADR SI144/ IATA A58)

14.5 Environmental Hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special Precautions for User

not necessary

14.7 Carriage of bulk cargo by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)" https://www.osha.gov/dsg/hazcom/ghs.html 29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards



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NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see www.mn-net.com

15.2 **Chemical Safety Assessment**

not necessary for these small amounts

SECTION 16: Other Information

16.1 Changes compared to the last version

Between versions 2.2.2.5 and 2.2.2.2 following changes were applied: - 3 substance data corrected

16.2 **List of Hazard and Precaution Phrases**

16.2.1 List of relevant H Phrases

> Flammable liquid and vapor. H226

Harmful to aquatic life with long lasting effects. H412

16.2.2 List of relevant P Phrases

Keep away from heat/sparks/open flames/hot surfaces. No smoking. P210

P273 Avoid release to the environment.

16.3 Recommended Restriction on Use

Only for Professional User.

An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of Key Data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

SUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP) Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP) Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP) Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019
Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP) Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP) Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary

2014-04 adjustment according Regulation 487/2013/EU 2016-03 adjustment according Regulation 1221/2015/EU

2017–08 adjustment according the Ordinance on Ethanol Denaturation 2016/1867/EU

2017-11 adjustment according the ECHA registration dossier 2022-11 adjustment according Regulation 878/2020/EU

16.5 **Further Information**

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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from use of or reliance upon this information. See terms and conditions at the end of our price lists for additional information.

16.6 Legend / Abbreviations

according acc:

ADR: Convention concerning the International Carriage of Dangerous Goods by Road

Act:

BAT: biological workplace tolerance value

Cargo Aircraft Only CAO:

Carc: carcinogen

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging regulation

CMR: carcinogen, mutagen, reproduction toxic

Corr: corrosive

COD: chemical oxigen demand

Chemical Substance Control Law (Jp) CSCL:

Dam: damage

DNEL: Derived No-Effect Level (for workers)

derm: dermal dog: dog

EC10: Concentration causing a toxic effect in 10% of the test organisms

EC: **European Community**

EC-Nr: Substance number of the EC substance inventory EmS: Guide to accident management measures on ships

European Union EU: fish (not specified) fish:

Global Harmonized System of Classification and Labeling of Chemicals GHS:

quinea pig

gpg: ICAO: International Civil Aviation Organization

ihl: inhaled

IMDG: International Maritime Dangerous Goods Code

intrav: intravenous ipt: intraperitonaeal

iSHL: Industrial Safety and Health Law (Jp)

LC50: letale concentration 50%

LD50: letale dosis 50%

leuciscus idus: fisch, ide, orfe MAK: maximum workplace concentration

Met: Metall mus: mouse Muta: mutagen

NIOSH: National Institute for Occupational Safety and Health (US)

NRD: Non-rapidly degradable

onchorhynchus mykiss: fish, rainbow trout

orl:

Occupational Safety and Health Administration OSHA: PAX: transport on passenger planes allowed PBT: persistent, bioaccumulating, toxic substance

pH: pH value

pimephales promelas: fish, fathead minnow Predicted No Effected Concentration PNEC: PROC 15: Process category 'for laboratory use'

Law for PRTR and Promotion of Chemical Management (Jp) PRTR:

PVC: polyvinyl chloride quail: bird, quail rat: rat rbt: rabbit

rapidly degradable RD.

RF: repeated

REACh: Registration, Evaluation, Authorisation and Restriction of Chemicals

REF: item number, reference number Reg.No.: rRegistration number

harmful to reproduction Repr:

Resp: respiratory sub cutan scu:

RIP: **REACH Implementations Projects**

SDS: safety data sheet Sens: sensitisation

short term exposure limit STFI: STOT: Specific Target Organ Toxicity



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SVHC: Substance of Very High Concern

t/a: tons per year

TCCA: Toxic Chemicals Control Act (S. Korea)

Tox: toxic

TSCA: The Toxic Substances Control Act (US)

TWA: time weighted average TRGS: technical regulations (DE)

vPvB: very persistent, very bioaccumulating substance

16.7 Training Advice

Regular safety training. Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.



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