*** Elektroylt Spezial**

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

1.1. Product identifier

Trade name

Elektroylt Spezial

Registration no.

EC No.:	231-633-2
REACH-Registration no.	01-2119485924-24-XXXX
CAS No.	7664-38-2
Index no.	015-011-00-6

UFI

UFI: 493C-S0MG-400W-D66T

Use of the substance/mixture

Intermediate, Laboratory chemicals, Descaling compound/ Scale solvent, Corrosion inhibitors, pH-corrective agent, Processing aid, Degreasing agent, Metal surface treatment, Industrial use

1.3. Details of the supplier of the safety data sheet

Address

Reuter GmbH & Co.KG
Schimmelbuschstraße 9e
DE 40699 Erkrath

Telephone no.	+49 211 730604 30
E-mail address	mail@reuter.works

1.4. Emergency telephone number

+49 171 5450200

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Met. Corr. 1	H290
Acute Tox. 4	H302
Skin Corr. 1B	H314

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Further supplemental information

Restricted to professional users

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients (Regulation (EC) No. 1272/2008)

Phosphoric acid

CAS No.	7664-38-2		
EINECS no.	231-633-2		
Registration no.	01-2119485924-24-XXXX		
Concentration		45 - 55	%
Met. Corr. 1	H290		
Acute Tox. 4	H302		
Skin Corr. 1B	H314		

Concentration limits (Regulation (EC) No. 1272/2008)

	Skin Corr. 1B	H314	>= 25
	Eye Irrit. 2	H319	>= 10 < 25
	Skin Irrit. 2	H315	>= 10 < 25
cATpE oral		500	mg/kg

Complete text of H-phrases in Chapter 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from danger area, lay him down. Remove contaminated, soaked clothing immediately and dispose of safely. Irregular breathing/no breathing: artificial respiration. If the patient is likely to become unconscious, place and transport in stable sideways position.

After inhalation

Remove the casualty into fresh air and keep him calm. Summon a doctor immediately.

After skin contact

Wash immediately with plenty of water for several minutes. Summon a doctor immediately.

After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Summon a doctor immediately.

After ingestion

Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Summon a doctor immediately.

4.2. Most important symptoms and effects, both acute and delayed

Causes burns.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Keep under medical supervision for at least 48 hours.

Hints for the physician / hazards

Risk of pneumonia; Risk of stomach perforation

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Water spray jet, Dry powder, Foam, Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Reactions with metals, with evolution of hydrogen. In the event of fire the following can be released: Phosphorus oxides (e.g. P2O5); Phosphorus trihydride (phosphine)

5.3. Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit.
Cool endangered containers with water spray jet. Collect contaminated fire-fighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. High risk of slipping due to leakage/spillage of product.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Neutralization agent use. When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep container tightly closed. Handle and open container with care. Avoid formation of aerosols. Provide good ventilation of working area (local exhaust ventilation if necessary). When diluting, always stir product into water.

Advice on protection against fire and explosion

No special measures required.

7.2. Conditions for safe storage, including any incompatibilities

Provide acid-resistant floor. Keep only in original packaging.
Do not store together with: Alkalis, Reducing agents, Metals

Storage class according to TRGS 510	8B	Non-combustible corrosive hazardous substances

Keep container tightly closed and in a well-ventilated place. Protect from heat/overheating.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

phosphoric acid … %

List	TRGS 900	
Type	AGW	
Long term exposure limit	2	mg/m³
Maximum limit value: 2(I)		
Pregnancy group: Y		
Remarks: DFG, EU, AGS		

phosphoric acid … %

List	IOELV	
Type	IOELV	
Long term exposure limit	1	mg/m³
Short term exposure limit	2	mg/m³

Derived No/Minimal Effect Levels (DNEL/DMEL)

Phosphoric acid

DNEL				
Conditions	Worker	Long term	inhalative	Local effects
Concentration	1	mg/m³		
DNEL				
Conditions	General Population	Long term	inhalative	Local effects
Concentration	0,36	mg/m³		
DNEL				
Conditions	Worker	Acute	inhalative	Local effects
Concentration	2	mg/m³		
DNEL				
Conditions	Worker	Long term	inhalative	Systemic effects
Concentration	10,7	mg/l		
DNEL				
Conditions	General Population	Long term	oral	Systemic effects
Concentration	0,1	mg/kg		
DNEL				
Conditions	General Population	Long term	inhalative	Systemic effects
Concentration	4,57			

8.2. Exposure controls

General protective and hygiene measures

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep seperated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Do not inhale gases/vapours/aerosols.

Respiratory protection

Breathing apparatus in the event of aerosol or mist formation. In case of brief exposure or low pollution

use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Short term: filter apparatus, combination filter E-P2; Short term: filter apparatus, combination filter B-P2

Hand protection

Appropriate Material	Chloroprene		
Material thickness	>=	0,6	mm
Breakthrough time	>=	480	min

Eye protection

Tightly fitting safety glasses

Body protection

Acid-resistant protective clothing

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	colourless
Odour	odourless

Melting point/freezing point

Value	appr.	-18	°C

Initial boiling point and boiling range

Value	appr.	135	°C

Flammability (solid, gas)

Not ignitable

Upper/lower flammability or explosive limits

Remarks	Not applicable

Flash point

Remarks	Not applicable

Auto-ignition temperature

Remarks	Not applicable

Decomposition temperature

Remarks	No data available

pH value

Value	<	1	
Concentration/H2O		23	g/l
Temperature		20	°C

Viscosity

Remarks	No data available

Solubility(ies)

Medium	Water
Remarks	Completely miscible

Partition coefficient: n-octanol/water

Remarks	Not applicable

Vapour pressure

Value		0,04	hPa
Temperature		20 °C	

Density

Value		1,58	g/cm³
Temperature		20 °C	

Vapour density

Value	3,4

9.2. Other information

Odour threshold

Remarks	No data available

Evaporation rate

Remarks	No data available

Explosive properties

Remarks	This product is not potentially explosive.

Oxidising properties

evaluation	not oxidizing

SECTION 10: Stability and reactivity

10.1. Reactivity

see Possibility of hazardous reactions

10.2. Chemical stability

No decomposition if used as prescribed.

10.3. Possibility of hazardous reactions

Corrosive to metals. Reactions with reducing agents. Reactions with alkalies. Reactions with metals, with evolution of hydrogen.

10.4. Conditions to avoid

To avoid thermal decomposition do not overheat. Protect from light.

10.5. Incompatible materials

Reducing agents, metals, Alkalis

10.6. Hazardous decomposition products

Phosphorus oxides (e.g. P2O5), Hydrogen

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity (Components)

Phosphoric acid

Species	rat			
LD50	>=	300	2000	mg/kg
Method	OECD 423			
Species	rat			
NOAEL		250		mg/kg

Acute dermal toxicity (Components)

Phosphoric acid

Species	rabbit		
LD50		2740	mg/kg

Acute inhalative toxicity (Components)

Phosphoric acid

No information available.

Skin corrosion/irritation

evaluation	corrosive

Corrosive action on the skin and mucous membrane.

Serious eye damage/irritation

evaluation	strongly corrosive

Sensitization (Components)

Phosphoric acid
not investigadet - substance is corrosive

Mutagenicity (Components)

Phosphoric acid
Based on available data, the classification criteria are not met.

Reproduction toxicity (Components)

Phosphoric acid
Based on available data, the classification criteria are not met.

Carcinogenicity (Components)

Phosphoric acid
Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure
May cause respiratory irritation.

Repeated exposure
No data available

Aspiration hazard
No information available.

11.2 Information on other hazards

Endocrine disrupting properties with respect to humans
The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice
Strong caustic effect in the mouth and throat and danger of perforation of the esophagus and stomach.

SECTION 12: Ecological information

12.1. Toxicity

Fish toxicity (Components)

Phosphoric acid

Species	Gambusia affinis		
LC50	138		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)

Phosphoric acid

Species	Daphnia magna		
EC50	> 100		mg/l
Duration of exposure	48	h	
Method	OECD 202		
Remarks	Static system		
Species	Daphnia magna		
NOEC	56		mg/l
Duration of exposure	48	h	
Method	OECD 202		

Algae toxicity (Components)

Phosphoric acid

Species	Desmodesmus subspicatus		
EC50	> 100		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Remarks	Static system		
Species	Desmodesmus subspicatus		

NOEC	100		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Bacteria toxicity (Components)

Phosphoric acid

Species	activated sludge		
EC50	270		mg/l

12.2. Persistence and degradability

Biodegradability (Components)

Phosphoric acid

Inorganic product, cannot be eliminated from the water by biological purification processes.

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

Will not adsorb on soil.

12.5. Results of PBT and vPvB assessment

General information

No valuation for anorganic substances necessary.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Behaviour in environment compartments

Harmful effect due to pH shift. Can contribute to eutrophication of waters.

Behaviour in sewers [waste treatment plants]

The product is an acid. Neutralization is normally necessary before a waste water is discharged into sewage treatment plants.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.
Do not allow to enter drains or water courses.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number	1805	1805	1805
14.2. UN proper shipping name	PHOSPHORIC ACID, SOLUTION	PHOSPHORIC ACID, SOLUTION	PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)	8	8	8
14.4. Packing group	III	III	III
Label			
14.5. Environmental hazards	-	-	-
Limited Quantity	5 l	5 l	
Transport category	3		
Tunnel restriction code	E		
Hazard id. no.	80		
EmS		F-A, S-B	

Information for all modes of transport

14.6. Special precautions for user

No information available.

Other information

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Water Hazard Class (Germany)

Water Hazard Class (Germany)	WGK 1
Remarks	Derivation of WGK according to Annex 1 No. 5.2 AwSV

VOC-Content according to directive 2010/75/EU

VOC (EU) 0 %

Classification according to Betriebssicherheitsverordnung (BetrSichV)

not applicable

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

Registration status

Phosphoric acid

AICS (Australian Inventory of Chemical Substances)	listed
DSL (Canada)	listed
IECSC (China)	listed
EINECS	listed
ENCS (Japan)	listed
ECL (Korea)	listed
PICCS (Philippines)	listed
TSCA (USA)	listed
POPs	not listed

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Met. Corr. 1	H290	On basis of test data
Acute Tox. 4	H302	Calculation method
Skin Corr. 1B	H314	Calculation method

Hazard statements listed in Chapter 2/3

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
Skin Corr. 1B	Skin corrosion, Category 1B

Abbreviations

AC: Article Category
ACGIH: American Conference of Governmental Industrial Hygienists
ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADNR: Accord européen relatif au transport international des marchandises dangereuses par navigation sur le Rhin
ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
AGW: Arbeitsplatzgrenzwert
AICS: Australian Inventory of Chemical Substances
AOX: adsorbable organically bound halogens
ARW: Arbeitsplatzrichtwert (Germany)
ASTM: American Society for Testing And Materials
ATE: acute toxicity estimates
ATP: Adaptation to technical and scientific progress
AWsV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Germany)
BAR: Biologischer Arbeitsstoff-Referenzwert
BCF: bioconcentration factor
BetrSichV: Betriebssicherheitsverordnung (Germany)
BG: Berufsgenossenschaft (Germany)
BGW: Biologischer Grenzwert
BLW: Biologischer Leitwert
BOD: biochemical oxygen demand
CAS: Chemical Abstracts Service
cATpE: converted acute toxicity point estimate
CEA: Comité Européen des Assurances
CEFIC: European Chemical Industry Council

CESIO: Comité Européen des Agents de Surface et leurs Intermédiaires Organiques
ChemG: Chemikaliengesetz (Germany)
CMR: Cancerogen Mutagen Reprotoxic
COD: chemical oxygen demand
DFG: Deutsche Forschungsgemeinschaft
DIN: german industry standard
DMEL: Derived minimal effect level
DNEL: Derived no effect level
DOC: dissolved organic carbon
DSL: Canada Domestic Substances List
EAK: Europäischer Abfallkatalog
EbC: inhibitory concentration of growth
EC: effective concentration
EC: European Community
ECETOC: European Centre For Ecotoxicology and toxicology of Chemicals
ECHA: European Chemicals Agency
EEC: European Economic Community
EG: Europäische Gemeinschaft
EH40: List of approved workplace exposure limits
EINECS: European Inventory of Existing Commercial Chemical Substances
EKA: Expositionsäquivalente für krebserzeugende Arbeitsstoffe
EL: effect level
ELINCS: European List of Notified Chemical Substances
EmS: Emergency Schedules
EN: european standards
ENCS: Japanese Existing and New Chemical Substances Inventory
ERC: Environmental Release Category
ErC: inhibitory concentration of the growth rate
EU: European Union
EWG: Europäische Wirtschaftsgemeinschaft
FDA: Food and Drug Administration
FMVSS: National Highway Traffic Safety Administration
GefStoffV: Gefahrstoffverordnung
GGVSee: Gefahrgutverordnung See
GHS: Globally Harmonized System of classification and Labelling of Chemicals
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IC: inhibitory concentration
ICAO: International Civil Aviation Organization
IECSC: Chinese Chemical Inventory of Existing Chemical Substances
IMDG: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
INCI: International Nomenclature of Cosmetic Ingredients
IRPTC: International Register of Potentially Toxic Chemicals
ISO: International Organization for Standardization
IUCLID: International Uniform Chemical Information Database
Cat: category
KBwS: Kommission zur Bewertung wassergefährdender Stoffe (Germany)
KECI: Korea Existing Chemicals Inventory
LC: Lethal concentration
LD: Lethal dose
LDLo: lethal dose low
LGK: storage category
LL: Lethal level
LLC: Lowest lethal concentration
NCI: National Chemicals Inventory
LOAEL: Lowest observed adverse effect level
LOEC: Lowest observed effect concentration

LOEL: Lowest observed effect level
Log pow: logarithm of the distribution coefficient n-octanol / water
LQ: limited quantity
MAC: Maximale aanvaarde concentratie (Netherlands)
MAK: Maximale Arbeitsplatz-Konzentration
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL: Marine Pollution)
MEL: Maximum exposure limits
MITI: Ministry of International Trade and Industry (Japan)
n.a.g.: nicht anders genannt
NATEC: Naval Air Technical Data and Engineering Service Command
NCI: National Chemicals Inventory
NLP: No-longer Polymer
NOAEC: No observed adverse effect concentration
NOAEL: no observable adverse effect level
NOEC: No observable effect concentration
NOEL: No observable effect level
NOELR: no observable effect loading rate
NZIOC: New Zealand Inventory of Chemicals
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational exposure limit
OELV: Occupational exposure limit value
OES: Occupational exposure standards
PBT: Persistent, Bioaccumulative and Toxic
PC: Product Category
PEC: Predicted environmental concentration
PICCS: Philippine Inventory of Chemicals and Chemical Substances
PNEC: predicted no effect concentration
PNEC: Predicted no effect concentration
POPs: Persistent organic pollutants
pOW: Octanol-water partition coefficient
PROC: Process Category
REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals
RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses
RTECS: Registry of Toxic Effects of Chemical Substances
SAE: Society of Automotive Engineers
STP: Sewage treatment plant
SU: Sector of Use
SUVA: Schweizerische Unfallversicherungsanstalt
SVHC: Substances of very high concern
TA Luft: Technische Anleitung zur Reinhaltung der Luft
TCCL: Toxic Chemical Control Law
ThOD: theoretical oxygen demand
TRA: targeted risk assessment
TRG: Technische Regeln Druckgase (Germany)
TRgA: Technische Regeln für gefährliche Arbeitsstoffe(Germany)
TRGS: Technische Regeln für Gefahrstoffe
TRK: Technische Richtkonzentration
TSCA: Toxic Substances Control Act (USA)
UN: United Nations
VbF: Verordnung über brennbare Flüssigkeiten
VCI: Verband der Chemischen Industrie e.V.
VDE: Verband der Elektrotechnik, Elektronik und Informtaionstechnik e.V.
VDI: Verein Deutscher Ingenieure
VLEP: Valeurs Limites d'exposition Professionnelle
VOC: Volatile Organic Compound
vPvB: Very persistent and very bioaccumulative
VwVwS: Verwaltungsvorschrift wassergefärdende Stoffe
WEL: Workplace exposure limit

WGK: water hazard class (Germany)
WHO: World Health Organization
WoE: Weight of Evidence

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.