



**elma clean 112 (EC 112)**

Print date 20.07.2022  
Revision date 15.07.2022  
Version 2.8 (en)  
replaces version of 03.03.2021 (2.7)

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

**\* 1.1 Product identifier**

**Trade name/designation** elma clean 112 (EC 112)  
**Unique Formula Identifier** UFI:5Y00-R0CF-A00U-3EKK  
**Product category** PC-CLN-OTH Other cleaning, care and maintenance products (excludes biocidal products)

**Hazard components for labelling**

potassium hydroxide

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

**Sector of uses [SU]**

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
SU3 Industrial uses

**Use of the substance/mixture**

Strong alkaline cleaning component for metal and plastic surfaces for immersion and ultrasonic cleaning, suitable for membrane filtration. Free of surfactants.

**Uses advised against**

Do not use for injecting or spraying.

**1.3 Details of the supplier of the safety data sheet**

**Supplier**

Elma Schmidbauer GmbH  
Gottlieb-Daimler-Str. 17  
D-78224 Singen (Htwl.)  
Telephone +49 7731 882-0  
Telefax: +49 7731 882-266  
E-mail info@elma-ultrasonic.com

Department responsible for information:  
Chemie/Labor: Email: chemlab@elma-ultrasonic.com  
Website www.elma-ultrasonic.com

**\* 1.4 Emergency telephone number**

Vergiftungs-Informations-Zentrale Freiburg (Sprache/Language: DE, +49 761 19240  
EN)

**\* SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Met. Corr. 1, H290	Expert judgement and weight of evidence determination.
Acute Tox. 4, H302	Calculation method.
Skin Corr. 1A, H314	Calculation method.
Eye Dam. 1, H318	Calculation method.

**Hazard statements for physical hazards**

H290 May be corrosive to metals.

**Hazard statements for health hazards**

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.



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**Hazard pictograms**



GHS05



GHS07

\* **2.2 Label elements**

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

**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**

P405 Store locked up.  
P102 Keep out of reach of children.  
P234 Keep only in original packaging.  
P260 Do not breathe mist/spray.  
P280 Wear protective gloves/protective clothing and eye/face protection.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
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 doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.

\* **Other labelling**

Labelling for contents according to regulation (EC) No. 648/2004:  
5 - 15% phosphates

\* **2.3 Other hazards**

\* **Adverse human health effects and symptoms**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

\* **Adverse environmental effects**

Aquatic Acute 2 H401: Toxic to aquatic life.  
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Results of PBT and vPvB assessment**

The product does not contain any PBT-/vPvB-substances according to the recipe.

**SECTION 3: Composition / information on ingredients**

**3.1 Substances**

not applicable



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**3.2 Mixtures**

**Hazardous ingredients**

CAS No.	EC No.	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL/ M/ ATE
1310-58-3	215-181-3	potassium hydroxide	15 - 30 weight-%	Met. Corr. 1 ; H290 Acute Tox. 3; H301 Skin Corr. 1A; H314 Eye Dam. 1; H318	Skin Corr. 1A;H314: C>=5% Skin Corr. 1B;H314: 2%<=C<5% Skin Irrit. 2;H315: 0.5%<=C<2% Eye Irrit. 2;H319: 0.5%<=C<2%
7320-34-5	230-785-7	tetrapotassium pyrophosphate	5 - 15 weight-%	Eye Irrit. 2; H319	
102-71-6	203-049-8	triethanolamine [2,2',2''-nitrilotriethanol]	5 - 15 weight-%		
REACH No.		Substance name			
01-2119487136-33		potassium hydroxide			
01-2119489369-18		tetrapotassium pyrophosphate			
01-2119486482-31		triethanolamine [2,2',2''-nitrilotriethanol]			

**Additional information**

Aqueous strong alkaline cleaning component, containing potassium hydroxide, phosphates and salts of organic acids.

**\* SECTION 4: First aid measures**

**\* 4.1 Description of first aid measures**

**General information**

Remove contaminated, saturated clothing immediately.  
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

**Following inhalation**

Provide fresh air.  
In case of inhaling spray mist, consult a physician.  
In the event of symptoms refer for medical treatment.

**\* Following skin contact**

In case of contact with skin wash off immediately with plenty of water.  
In case of skin irritation, consult a physician.

**After eye contact**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**Following ingestion**

Do NOT induce vomiting.  
Call a physician immediately.  
Rinse mouth immediately and drink plenty of water.

**\* 4.2 Most important symptoms and effects, both acute and delayed**

**\* Effects**

Risk of stomach perforation.



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\* **4.3 Indication of any immediate medical attention and special treatment needed**

\* **Notes for the doctor**  
Keep under medical supervision for at least 48 hours.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**  
Water

**5.2 Special hazards arising from the substance or mixture**

**Hazardous combustion products**  
In case of fire formation of dangerous gases possible.

**5.3 Advice for firefighters**

No data available

**Additional information**

The product itself does not burn.  
Co-ordinate fire-fighting measures to the fire surroundings.  
Do not inhale explosion and combustion gases.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**  
Use personal protection equipment.  
Special danger of slipping by leaking/spilling product.

**For emergency responders**  
Remove persons to safety.  
Personal protection equipment  
Use personal protection.  
Use breathing apparatus if exposed to vapours/dust/aerosol.  
Forms slippery surfaces with water.  
Special danger of slipping by leaking/spilling product.

**6.2 Environmental precautions**

Do not allow to enter into surface water or drains.  
Do not allow to enter into soil/subsoil.

**6.3 Methods and material for containment and cleaning up**

**For containment**  
Suitable material for taking up:  
Sand  
Sawdust  
Universal binder  
Kieselguhr  
Flush away residues with water.  
Use chemical neutralizers.  
After taking up the material dispose according to regulation.

**6.4 Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8



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**\* SECTION 7: Handling and storage**

**\* 7.1 Precautions for safe handling**

**\* Protective measures**

Avoid:  
generation/formation of aerosols  
Do not inhale aerosols  
Handle and open container with care.  
Use only alkali-resistant equipment.  
When diluting/dissolving, always have the water ready first, then slowly stir in the product.  
The product is not combustible.

**Advices on general occupational hygiene**

Make available sufficient washing facilities  
Remove contaminated, saturated clothing immediately.  
Keep away from food and drink.

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Suitable floor material:  
Alkali-resistant  
Keep/Store only in original container.  
Keep container tightly closed.

**Storage class**

8B Non-combustible corrosive substances

**Materials to avoid**

Do not store together with:  
Acid

**Further information on storage conditions**

Keep locked up and out of reach of children.  
Protect from heat and direct solar radiation.  
Do not keep at temperatures below -5°C.  
Do not keep at temperatures above 30°C.  
Storage time: 3 years.

**7.3 Specific end use(s)**

**Recommendation**

no further

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

CAS No.	EC No.	Substance name	occupational exposure limit value
1310-58-3	215-181-3	Potassium hydroxide	Short-term(mg/m <sup>3</sup> ) 2 (1) 15 minutes reference period (IE)
102-71-6	203-049-8	Triethanolamine	5 [mg/m <sup>3</sup> ] (IE)
1310-58-3	215-181-3	Potassium hydroxide	Short-term(mg/m <sup>3</sup> ) 2 (UK)

**DNEL worker**

CAS No.	Substance name	DNEL value	DNEL type	Remark
1310-58-3	potassium hydroxide	1 mg/m <sup>3</sup>	long-term inhalative (local)	
102-71-6	triethanolamine [2,2',2''-nitrilotriethanol]	1 mg/m <sup>3</sup>	long-term inhalative (local)	
102-71-6	triethanolamine [2,2',2''-nitrilotriethanol]	7.5 mg/kg bw/day	long-term dermal (systemic)	



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**PNEC**

CAS No.	Substance name	PNEC Value	PNEC type	Remark
7320-34-5	tetrapotassium pyrophosphate	0.05 mg/L	aquatic, freshwater	
7320-34-5	tetrapotassium pyrophosphate	50 mg/L	sewage treatment plant (STP)	
102-71-6	triethanolamine [2,2',2''-nitrilotriethanol]	0.32 mg/L	aquatic, freshwater	
102-71-6	triethanolamine [2,2',2''-nitrilotriethanol]	10 mg/L	sewage treatment plant (STP)	

**8.2 Exposure controls**

**Personal protection equipment**

**Eye/face protection**  
tightly fitting goggles

**Hand protection**  
Gloves (alkali-resistant)  
Glove material specification [make/type, thickness]: FKM, 0.4mm.  
Glove material specification [make/type, thickness]: NBR, 0.35mm.  
Glove material specification [make/type, thickness]: Butyl, 0.5mm.  
Glove material specification [make/type, thickness]: NR, 0.5mm.

**Body protection:**  
Required properties:  
alkali-resistant

**Respiratory protection**  
Respiratory protection necessary at:  
aerosol or mist formation  
Suitable respiratory protection apparatus:  
Short term: filter apparatus, Filter P2

**Environmental exposure controls**

**Technical measures to prevent exposure**  
Neutralization is normally necessary before a waste water is discharged into sewage treatment plants.  
Avoid penetration into the subsoil/soil.  
Do not discharge into surface waters.

**Additional information**

Occupational exposure limits for triethanolamine.  
Occupational exposure limits for potassium hydroxide.

**\* SECTION 9: Physical and chemical properties**

**\* 9.1 Information on basic physical and chemical properties**

**Physical state**  
liquid

**Colour**  
yellowish - brown

**Odour**  
characteristic

**Safety relevant basis data**

	Value	Method	Source, Remark
Odour threshold:			not determined
Melting point/freezing point	solidifying range < 0 °C		



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	Value	Method	Source, Remark
Boiling point or initial boiling point and boiling range	> 100 °C		
flammability	solid		not applicable
flammability	gaseous		not applicable
Lower and upper explosion limit	Upper explosion limit		not relevant
Lower and upper explosion limit	Lower explosion limit		not relevant
Flash point			No flash point up to 100 °C.
Auto-ignition temperature	324 °C		Value of triethanolamine.
Decomposition temperature	≥ 100 °C		
pH	in delivery state 14 (20°C)		strong alkaline
Viscosity	dynamic 9.4 mPa*s (20°C)		
Solubility(ies)	Water solubility		miscible
Partition coefficient n-octanol/water (log value)	approx. -2		Value of tetrapotassium pyrophosphate.
Vapour pressure	approx. 23 hPa (20°C)		
Density and/or relative density	1.362 g/cm <sup>3</sup> (20°C)		
Relative vapour density	5.13		Value of triethanolamine.
particle characteristics			not applicable (liquid).

\* **9.2 Other information**

\* **Information with regard to physical hazard classes**

\* **Explosives**

\* **Assessment/classification**

The mixture does not contain any explosive substances (CLP I 2.1.4.3 a).

CLP I 2.1.4.3 a: The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with explosive properties.

\* **flammable gases**

\* **Assessment/classification**

not applicable (liquid).

\* **Aerosols**

\* **Assessment/classification**

not relevant - no aerosol.

The classification criteria for this hazard class are not met by definition.

\* **Oxidising gas**

\* **Assessment/classification**

not applicable (liquid).

\* **Gases under pressure**

\* **Assessment/classification**

not applicable (liquid - no dissolved gas).

\* **flammable liquids**

\* **Assessment/classification**

not flammable, not combustible (No flash point below 100°C).



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\* **flammable solids**

\* **Assessment/classification**  
not applicable (liquid).

\* **Self-reactive substances and mixtures**

\* **Assessment/classification**  
The mixture does not contain any self-reactive substances (CLP I 2.8.4.2 a).  
CLP I 2.8.4.2 a: There are no chemical groups present in the molecule associated with explosive or self reactive properties.

\* **Pyrophoric liquids**

\* **Assessment/classification**  
The mixture does not contain any pyrophoric substances - not spontaneously flammable (CLP I 2.9.4.1).  
CLP I 2.9.4.1: The classification procedure for pyrophoric liquids need not be applied when experience in manufacture or handling shows that the substance or mixture does not ignite spontaneously on coming into contact with air at normal temperatures (i.e. the substance is known to be stable at room temperature for prolonged periods of time (days)).

\* **Pyrophoric solids**

\* **Assessment/classification**  
not applicable (liquid).

\* **self-heating substances and mixtures**

\* **Assessment/classification**  
The mixture does not contain any self-heating substances.

\* **Substances or mixtures which, in contact with water, emit flammable gases**

\* **Assessment/classification**  
not relevant - in contact with water releases no flammable gases (CLP I 2.12.4.1).  
CLP I 2.12.4.1: The classification procedure for this class need not be applied if: (a) the chemical structure of the substance or mixture does not contain metals or metalloids; or (b) experience in production or handling shows that the substance or mixture does not react with water, e.g. the substance is manufactured with water or washed with water; or (c) the substance or mixture is known to be soluble in water to form a stable mixture.

\* **Oxidising liquids**

\* **Assessment/classification**  
The mixture does not contain any oxidising substances.

\* **Oxidising solids**

\* **Assessment/classification**  
not applicable (liquid).

\* **Organic peroxides**

\* **Assessment/classification**  
The mixture does not contain any organic peroxides.

\* **Corrosive to metals**

**Safety characteristics**

	Value	Method, Result	Source, Remark
Corrosion rate (mm aluminium/year)	> 6.25 mm/a	Expert judgement and weight of evidence determination.	
Corrosion rate (mm steel/year)			not available

\* **Assessment/classification**  
The mixture is classified as corrosive to metals. (Met. Corr. 1 H290).

\* **Desensitised explosives**

\* **Assessment/classification**  
The mixture does not contain any desensitised explosive substances.



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**Other safety characteristics**

	Value	Method	Source, Remark
Evaporation rate			Water: 0.36 (ASTM D3539).
Solvent content	0 %		
Explosive properties:			none
Oxidising properties			none

\* **Other information**  
No further relevant informations available.

\* **SECTION 10: Stability and reactivity**

\* **10.1 Reactivity**

Exothermic reaction with:  
Acid  
No further hazardous reactions known if used as directed.

**10.2 Chemical stability**

Stable at ambient temperature.

**10.3 Possibility of hazardous reactions**

Exothermic reaction with:  
Acid  
Reactions with light metals, with evolution of hydrogen.

**10.4 Conditions to avoid**

Heat and direct solar radiation.

**10.5 Incompatible materials**

Reactions with strong acids.  
Corrodes aluminium.

**10.6 Hazardous decomposition products**

No decomposition if used as directed.

\* **SECTION 11: Toxicological information**

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

\* **Acute toxicity**

\* **Animal data**

	Effective dose	Method, Evaluation	Source, Remark
Acute oral toxicity	1260 mg/kg	ATE (acute toxicity estimate)	
	CAS No. 1310-58-3 potassium hydroxide LD50: 273 mg/kg Species Rat		
Acute dermal toxicity	> 5000 mg/kg	ATE (acute toxicity estimate)	
Acute inhalation toxicity	Acute inhalation toxicity (vapour)		not relevant

\* **Assessment/classification**  
Harmful if swallowed.



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\* **Skin corrosion/irritation**

**Animal data**

Result / Evaluation	Method	Source, Remark
strongly corrosive.	Calculation method.	

\* **Serious eye damage/irritation**

**Animal data**

Result / Evaluation	Method	Source, Remark
strongly corrosive.	Calculation method.	

\* **Sensitisation to the respiratory tract**

\* **Assessment/classification**

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

\* **Skin sensitisation**

**Animal data**

Result / Evaluation	Dose / Concentration	Method	Source, Remark
not sensitising.		Calculation method.	

\* **Germ cell mutagenicity**

\* **Assessment/classification**

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

\* **Carcinogenicity**

\* **Assessment/classification**

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

\* **Reproductive toxicity**

\* **Assessment/classification**

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

\* **Overall Assessment on CMR properties**

The mixture is not classified as mutagen / not classified as carcinogen / not classified as reproductive toxicant.

\* **STOT-single exposure**

\* **STOT SE 1 and 2**

**Other information**

The mixture is not classified as specific target organ toxicant (single exposure).

\* **Assessment/classification**

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

\* **STOT SE 3**

\* **Irritation to respiratory tract**

\* **Assessment/classification**

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

\* **Narcotic effects**

\* **Assessment/classification**

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

\* **STOT-repeated exposure**

**Other information**

The mixture is not classified as specific target organ toxicant (repeated exposure).



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\* **Assessment/classification**  
Based on available data, the classification criteria are not met.

\* **Aspiration hazard**

\* **Remark**  
The mixture is not classified as aspiration hazardous.  
Based on available data, the classification criteria are not met.

**11.2 Information on other hazards**

**Symptoms related to the physical, chemical and toxicological characteristics**

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

\* **Other information**

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).  
Inhalation of spray may cause strong respiratory irritation and may cause damage to mucous membranes/lung.  
Causes strong corrosions.

\* **SECTION 12: Ecological information**

\* **12.1 Toxicity**

**Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 212 mg/L	calculated.	
Chronic (long-term) fish toxicity	not determined		
Acute (short-term) toxicity to crustacea	EC50 45 mg/L	calculated.	After neutralization there is a reduction in the harmfulness: EC50(Daphnia, calculated, after neutralization): 432mg/l.
Chronic (long-term) toxicity to aquatic invertebrate	not determined		
Acute (short-term) toxicity to algae and cyanobacteria	EC50 1.6 mg/L	calculated.	After neutralization there is a reduction in the harmfulness: EC50(Algae, calculated, after neutralization): 383mg/l.
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	not determined		
Toxicity to other aquatic plants/organisms	not determined		
Toxicity to microorganisms	not determined		

\* **Assessment/classification**  
Toxic to aquatic life.

\* **12.2 Persistence and degradability**

	Value	Method	Source, Remark
Biodegradation	Degradation rate > 70 %		Biodegradable.
Biodegradation	Degradation rate 100 %	Neutralization, pH-measurement	Alkaline properties can be eliminated up to 100% by neutralization.



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	Value	Method	Source, Remark
Biodegradation			CAS No.1310-58-3 potassium hydroxide  Inorganic product which is not eliminable from water through biological cleaning processes.
Biodegradation			CAS No.7320-34-5 tetrapotassium pyrophosphate  Inorganic product which is not eliminable from water through biological cleaning processes.
Biodegradation	Degradation rate 96 % Test duration 19 d	OECD 301E/ EEC 92/69/V, C.4-B	CAS No.102-71-6 triethanolamine [2,2',2''-nitrilotriethanol]

### 12.3 Bioaccumulative potential

**Assessment/classification**

tetrapotassium pyrophosphate: Bioaccumulation is improbable.  
potassium hydroxide: Accumulation in organisms is not expected.  
triethanolamine: Accumulation in organisms is not expected (BCF: <0,4).

### 12.4 Mobility in soil

**Assessment/classification**

potassium hydroxide: Dissolves in water. Highly mobile in soil.  
tetrapotassium pyrophosphate: moderately mobile in soil (Koc: ~150).  
triethanolamine: Adsorption on soil is not expected (Koc: 10).

### 12.5 Results of PBT and vPvB assessment

The product does not contain any PBT-/vPvB-substances according to the recipe.

### \* 12.6 Endocrine disrupting properties

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### \* 12.7 Other adverse effects

	Value	Method	Source, Remark
Ozone depletion potential (ODP):			Based on available data, the classification criteria are not met.

### Additional ecotoxicological information

	Value	Method	Source, Remark
Chemical oxygen demand (COD) AOX	99 mgO2/g		The product does not contain any organically bound halogens according to the recipe.



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**Additional information**

Acute aquatic environmental hazards: Aquatic Acute 2 H401: Toxic to aquatic life. After neutralization: not classified as acute hazardous to the aquatic environment.  
The mixture is not classified as chronic hazardous to the aquatic environment.  
Do not allow uncontrolled discharge of product into the environment.  
No further relevant informations available.

**\* SECTION 13: Disposal considerations**

**\* 13.1 Waste treatment methods**

**\* Waste codes/waste designations according to EWC/AVV**

Waste code product	Waste name
200129 *	detergents containing hazardous substances

Waste code packaging	Waste name
150110 *	packaging containing residues of or contaminated by hazardous substances

**Appropriate disposal / Product**

Do not dispose with household waste.  
Suitable for neutralization are acetic acid (60%, liquid) or citric acid (solid powder, crystallized) if a stainless steel bath is used.  
Dispose of waste according to applicable legislation.

**\* Appropriate disposal / Package**

Non-contaminated packages may be recycled.  
Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1 UN number or ID number</b>	1814	1814	1814
<b>14.2 UN proper shipping name</b>	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	Potassium hydroxide solution
<b>14.3 Transport hazard class(es)</b>	8	8	8
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	No	No	No

**14.6 Special precautions for user**

none

**14.7 Maritime transport in bulk according to IMO instruments**

not relevant

**Land transport (ADR/RID)**

UN number or ID number	1814
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION
Transport hazard class(es)	8
Hazard label(s)	8
Classification code	C5
Packing group	II
Environmental hazards	No
Limited quantity (LQ)	1 L
Special provisions	-



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Tunnel restriction code E

**Sea transport (IMDG)**

UN number or ID number 1814  
UN proper shipping name POTASSIUM HYDROXIDE SOLUTION  
Transport hazard class(es) 8  
Packing group II  
Environmental hazards No  
Limited quantity (LQ) 1 L  
Marine pollutant No  
EmS F-A, S-B

**Air transport (ICAO-TI / IATA-DGR)**

UN number or ID number 1814  
UN proper shipping name Potassium hydroxide solution  
Transport hazard class(es) 8  
Packing group II  
Environmental hazards No

**\* SECTION 15: Regulatory information**

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

**\* EU legislation**

**Authorisations**  
not relevant

**Restrictions on use**  
Regulation (EC) No 1907/2006 (REACH), Annex XVII No 3 - not relevant if used as directed.

**\* Restrictions of occupation**  
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

**\* Other regulations (EU)**

**To follow:**  
Regulation (EC) No. 648/2004 (Detergents regulation)  
Directive 2012/18/EU, Annex I: not mentioned.

**\* Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**  
VOC content, delivery state 0 %

**15.2 Chemical Safety Assessment**

**\* National regulations**

For this mixture a chemical safety assessment were not carried out.



**elma clean 112 (EC 112)**

Print date 20.07.2022  
Revision date 15.07.2022  
Version 2.8 (en)  
replaces version of 03.03.2021 (2.7)

**\* SECTION 16: Other information**

**\* Abbreviations and acronyms**

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

ASTM: American Society for Testing and Materials

ATE: Acute Toxicity Estimate

AVV: Waste Shipment Ordinance (DE)

DGR: Dangerous Goods Regulations (IATA)

DNEL: derived no-effect level

DOC: Dissolved Organic Carbon

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization

JArbSchG: Youth Labor Protection Act (DE)

OECD: Organisation for Economic Cooperation and Development

PBT: persistent and bioaccumulative and toxic

PNEC: Predicted No Effect Concentration

RID: Dangerous goods regulations for transport by rail

TI: Technical Instruction

TRGS: Technical Rules for Hazardous Substances

VOC: Volatile organic compounds

vPvB: very persistent, very bioaccumulative

**Key literature references and sources for data**

European Chemicals Agency, <http://echa.europa.eu/>.

Informations from our suppliers.

**Additional information**

National and local regulations concerning chemicals shall be observed.

These data are given according to our actual knowledge about this product. This data sheet does not correspond to an assurance by virtue of a contract for properties of the product.

**Relevant H- and EUH-phrases (Number and full text)**

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

**Indication of changes**

\* Data changed compared with the previous version