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

1.1. Product identifier

Name of product EC 60

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

Identified uses

Sector of uses [SU]
SU20 - Health services
SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product categories [PC]
PC35 - Washing and cleaning products (including solvent based products)

Process categories [PROC]
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC13 - Treatment of articles by dipping and pouring

Environmental release categories [ERC]
ERC8a - Wide dispersive indoor use of processing aids in open systems
ERC8b - Wide dispersive indoor use of reactive substances in open systems

Uses advised against

Remark
Do not use for injecting or spraying.

! **Recommended intended purpose(s)**
Liquid cleaning concentrate for acidic thorough cleaning of medical instruments, implants, prostheses, workpieces and for removing of acid-soluble cements.

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor
Elma Schmidbauer GmbH
Gottlieb-Daimler-Str. 17, D-78224 Singen (Htwl.)
Phone +49 7731 882-0, Fax +49 7731 882-266
E-Mail info@elma-ultrasonic.com
Internet www.elma-ultrasonic.com

Advice Chemie/Labor: Email: chemlab@elma-ultrasonic.com

1.4. Emergency telephone number

Emergency advice
Vergiftungs-Informations-Zentrale Freiburg
(Sprache/Language: D, GB)
Phone +49 761 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Met. Corr. 1	**H290**	**Expert judgement and weight of evidence determination.**
Skin Corr. 1B	**H314**	**Calculation method.**
Eye Dam. 1	**H318**	**Calculation method.**

Hazard Statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

GHS05

Signal word
Danger

Hazard Statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary Statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308	IF exposed or concerned:
P310	Immediately call a POISON CENTER/doctor.

Hazardous ingredients for labeling
isotridecanol, ethoxylated, phosphoric acid …%

2.3. Other hazards
Acute Tox. 5 (oral + dermal) H303 + H313: May be harmful if swallowed or in contact with skin.

Aquatic Acute 2 H401: Toxic to aquatic life.

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

3.2. Mixtures
Description
Aqueous acid mixture from non-ionic surfactants and phosphoric acid.

Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/ GHS]
7664-38-2	**231-633-2**	**phosphoric acid …%**	**50 - 100**	**Met. Corr. 1, H290 / Acute Tox. 4, H302 / Skin Corr. 1B, H314 / Eye Dam. 1, H318**
69011-36-5	**931-138-8**	**isotridecanol, ethoxylated**	**< 10**	**Acute Tox. 4, H302 / Eye Dam. 1, H318**

REACH

CAS No	Name	REACH registration number
7664-38-2	phosphoric acid …%	01-2119485924-24
69011-36-5	isotridecanol, ethoxylated	Not relevant (polymer).

Additional advice
Strong acid cleaning concentrate.

SECTION 4: First aid measures

4.1. Description of first aid measures
General information
Remove contaminated soaked clothing immediately and dispose it safely.

In case of inhalation
In case of inhalation of mist seek medical advice.

In case of skin contact
In case of contact with skin wash off immediately with plenty of water.
Consult a doctor if skin irritation persists.

In case of eye contact
In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

In case of ingestion
Do not induce vomiting.
Call for a doctor immediately.
If swallowed seek medical advice immediately and show the doctor packing or label.
Rinse out mouth and give plenty of water to drink.

4.2. Most important symptoms and effects, both acute and delayed
Physician's information / possible dangers
Risk of stomach perforation

4.3. Indication of any immediate medical attention and special treatment needed
Treatment (Advice to doctor)
Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Limestone powder
Foam
Dry powder
Dry sand
Water spray jet

Unsuitable extinguishing media
no

5.2. Special hazards arising from the substance or mixture
In case of fire formation of dangerous gases possible.
In the event of fire the following can be released:
Carbon monoxide (CO)
Phosphorus oxides (e.g. phosphoruspentoxide)

5.3. Advice for firefighters
Special protective equipment for fire-fighters
Do not inhale explosion and/or combustion gases.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Use personal protection.
High risk of slipping due to leakage/spillage of product.

For emergency responders
Use personal protective clothing.
Use personal protection.
Wear acid-resistent boots.
Forms slippery surfaces with water.
High risk of slipping due to leakage/spillage of product.

6.2. Environmental precautions
Do not discharge into the drains/surface waters/groundwater.
Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up
Take up with absorbent material (e.g. acid binder).
Neutralize with sodium carbonate or slaked lime.
Flush away residues with water.
After taking up the material dispose according to regulation.

6.4. Reference to other sections
Informations for safe handling see chapter 7.
Informations for personal protective equipment see chapter 8.

! SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
Use only acid-proof equipment.
When diluting, always stir product into water.
Open and handle container with care!

General protective measures
Avoid contact with eyes and skin
Do not inhale aerosols

Hygiene measures
Provide washing facilities at place of work.
Keep away from food and drink.

Advice on protection against fire and explosion
The product is not combustible.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Provide acid-resistant floor.
Keep only in unopened original container.

Advice on storage compatibility
Do not store with alkalies.

! **Further information on storage conditions**
Keep container tightly closed, open and handle carefully.
Keep locked up, out of reach of children
Protect from heat and direct solar radiation.
Store in a dry place.
Do not keep at temperatures below -5°C.
Do not keep at temperatures above 30°C.

! **Information on storage stability**
Storage time: 4 years.

7.3. Specific end use(s)

Recommendation(s) for intended use
no further

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
7664-38-2	phosphoric acid	8 hours Short-term	1 2		EU
7664-38-2	Orthophosphoric acid	WEL, 8 hours Short-term	1 2		R34

DNEL-/PNEC-values

DNEL worker

CAS No	Substance name	Value	Code	Remark
7664-38-2	phosphoric acid …%	1 mg/m3	DNEL long-term inhalative (local)	

PNEC

CAS No	Substance name	Value	Code	Remark
7664-38-2	phosphoric acid …%			No data available

Additional advice

8.2. Exposure controls
Hand protection
Gloves (acid-resistant)
Glove material specification [make/type, thickness, permeation time/life]: Butyl, 0,5mm, >=8h.
Glove material specification [make/type, thickness, permeation time/life]: NBR, 0,35mm, >=8h.
Glove material specification [make/type, thickness, permeation time/life]: FKM, 0,4mm, >=8h.
Glove material specification [make/type, thickness, permeation time/life]: NR, 0,5mm, >=8h.

Eye protection
tightly fitting goggles

Limitation and surveillance of the environment
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.

! SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Colour	Odour
liquid	colourless	characteristic

Odour threshold
not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	< 1	20 °C			
starts to boil	> 100 °C				
solidifying range	< -5 °C				
Flash point					No flash point below 100°C.
Flammable (solid)	not applicable				
Flammability (gas)	not applicable				
Ignition temperature	not determined				
Self ignition temperature					not spontaneously flammable
Lower explosion limit					not relevant

	Value	Temperature	at	Method	Remark
Upper explosion limit					not relevant
Vapour pressure	10 - 15 hPa	20 °C			
Relative density	1,45 g/cm3	20 °C			
Vapour density	3,37				Value of phosphoric acid.
Solubility in water					miscible
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	-0,77				Value of phosphoric acid.
Decomposition temperature	>= 100 °C				
Viscosity	not determined				
Solvent content	0 %				

Vapourisation rate
Water: 0.36 (ASTM D3539).

Oxidising properties
no

Explosive properties
no

9.2. Other information
No further relevant informations available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No further hazardous reactions known if used as directed.
Exothermic reaction with alkalies.

10.2. Chemical stability
Stable at ambient temperature.

10.3. Possibility of hazardous reactions
Reactions with alkalies.
Reactions with light metals, with evolution of hydrogen.

10.4. Conditions to avoid
Heat and direct solar radiation.

10.5. Incompatible materials
Substances to avoid
Reactions with alkalies.

10.6. Hazardous decomposition products
No decomposition if used as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	2012 mg/kg		ATE (acute toxicity estimate)	
LD50 acute dermal	4086 mg/kg		ATE (acute toxicity estimate)	
Skin irritation	corrosive			
Eye irritation	corrosive			
Skin sensitization	no			

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

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

Aspiration hazard
The mixture is not classified as aspiration hazardous.

Toxicity test (Additional information)
The mixture is not classified as mutagen / not classified as carcinogen / not classified as reproductive toxicant.
In case of ingestion, severe burns of the mouth and throat and risk of perforation of esophagus and stomach.
Inhalation of spray may cause strong respiratory irritation and may cause damage to mucous membranes/lung.
phosphoric acid : LD50(oral, rat): 1530 mg/kg, LD50(dermal, rabbit): 2740 mg/kg .

Experiences made from practice
Causes corrosions.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 3,9 mg/l		calculated	After neutralization a reduction in harmful effect can be observed.
Daphnia	EC50 16,0 mg/l		calculated	
Algae	EC50 17,8 mg/l		calculated	

12.2. Persistence and degradability

	Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability	100 %		Neutralization, pH-measurement	Acid properties can be eliminated up to 100% by neutralization.
Biological degradability	> 90 %	DOC decrease		readily degradable

12.3. Bioaccumulative potential
isotridecanol, ethoxylated: Bioaccumulation is improbable.
phosphoric acid: Accumulation in organisms is not expected.

12.4. Mobility in soil
isotridecanol, ethoxylated: Koc: >5000, immobile, strong adsorption on soil.
phosphoric acid: not available.

12.5. Results of PBT and vPvB assessment
The product does not contain any PBT-/vPvB-substances according to the recipe.

12.6. Other adverse effects
No further relevant informations available.

Additional ecological information

	Value	Method	Remark
COD	98 mgO2/g	DIN ISO 15705	
AOX	The product does not contain any organically bound halogens according to the recipe.		

General regulation
The surfactants in our product meet the criteria for biodegradation as laid down in Annex III of the Regulation (EC) No 648/2004 on detergents.
Acute aquatic environmental hazards: Aquatic Acute 2 H401: Toxic to aquatic life. After neutralization: Aquatic Acute 3 H402: Harmful to aquatic life.
The mixture is not classified as chronic hazardous to the aquatic environment.
Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.	**Name of waste**
20 01 29*	detergents containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product
Do not dispose with household waste.
Product is allowed to discharge into sewage treatment plants, but in accordance with official regulations.
Neutralize with alkalies or lime.

Recommendations for packaging
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken fot reuse.

Recommended cleansing agent
Water

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	UN 1805	UN 1805	UN 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
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user
no

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Land and inland navigation transport ADR/RID
Hazard label(s) 8
tunnel restriction code E

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Authorizations
not relevant

Application restrictions
Regulation (EC) No 1907/2006 (REACH), Annex XVII No 3 - not relevant if used as directed.

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

VOC standard
VOC content 0 %

15.2. Chemical Safety Assessment
For this mixture a chemical safety assessment were not carried out.

SECTION 16: Other information

Recommended uses and restrictions
National and local regulations concerning chemicals shall be observed.

Further information
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.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 2.2
Sources of key data used
Own measurements.
European Chemicals Agency, http://echa.europa.eu/.
Informations from our suppliers.

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.