



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

1.1. Product identifier

Name of product

elma wf pro

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

Identified uses

! Sector of uses [SU]

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

SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Uses advised against

Remark

Do not use for injecting or spraying.

Recommended intended purpose(s)

Ready for use water-free cleaning solution for disassembled and assembled clockwork and for metallic precision parts.

This data sheet holds beginning from lot-No. 04, week 34, 2013.

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 67/548/EEC or 1999/45/EC

R10

Xn; R48/20

N; R51/53

Xn; R65

R66

R67

! R-phrases

10

Flammable.

48/20

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

51/53

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

65

Harmful: may cause lung damage if swallowed.

66

Repeated exposure may cause skin dryness or cracking.

67

Vapours may cause drowsiness and dizziness.



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

Hazard classes and Hazard
categories

Hazard Statements

Classification procedure

Flam. Liq. 3	H226	On basis of test data.
Skin Irrit. 2	H315	Calculation method.
Eye Dam. 1	H318	Calculation method.
STOT SE 3	H336	Calculation method.
STOT RE 1	H372	Calculation method.
Asp. Tox. 1	H304	Expert judgement and weight of evidence determination.
Aquatic Chronic 2	H411	Calculation method.

Hazard Statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H372	Causes damage to central nervous system through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

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



GHS02



GHS05



GHS07



GHS08



GHS09

! Signal word

Danger

Hazard Statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H372	Causes damage to central nervous system through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements

P102	Keep out of reach of children.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
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 or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P405	Store locked up.



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! Hazardous ingredients for labeling

3-Methylbut-2-en-1-ol, Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)], n-butanol

2.3. Other hazards

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

Mixture of aliphatic, isoaliphatic and aromatic hydrocarbons (C9-C12) with additives of soap, ammonia and alkoxy.

! Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to 67/548/EEC
64742-82-1	919-446-0	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]	90 - 100	R10; Xn R48/20; Xn R65; R66; R67; N R51/53
71-36-3	200-751-6	n-butanol	< 5	R10; Xn R22; Xi R37/38-41; R67
556-82-1	209-141-4	3-Methylbut-2-en-1-ol	< 5	R10; Xn R22; C R34
1336-21-6	215-647-6	ammonia%	< 1	C R34; N R50

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/ GHS]
64742-82-1	919-446-0	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]	90 - 100	Flam. Liq. 3, H226 / Asp. Tox. 1, H304 / STOT SE 3, H336 / STOT RE 1, H372 / , EUH066 / Aquatic Chronic 2, H411
71-36-3	200-751-6	n-butanol	< 5	Flam. Liq. 3, H226 / Acute Tox. 4, H302 / Skin Irrit. 2, H315 / Eye Dam. 1, H318 / STOT SE 3, H335 / STOT SE 3, H336
556-82-1	209-141-4	3-Methylbut-2-en-1-ol	< 5	Flam. Liq. 3, H226 / Acute Tox. 4, H302 / Skin Corr. 1C, H314 / Eye Dam. 1, H318
1336-21-6	215-647-6	ammonia%	< 1	Met. Corr. 1, H290 / Acute Tox. 4, H302 / Acute Tox. 4, H332 / Skin Corr. 1B, H314 / Eye Dam. 1, H318 / STOT SE 3, H335 / Aquatic Acute 1, H400 / Aquatic Chronic 2, H411

REACH

CAS No	Name	REACH registration number
64742-82-1	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]	01-2119458049-33
71-36-3	n-butanol	Not yet available from supplier.
556-82-1	3-Methylbut-2-en-1-ol	01-2119438442-43
1336-21-6	ammonia%	Not yet available from supplier.



! SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately and dispose it safely.

Take affected person into fresh air.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.

In the event of symptoms refer for medical treatment.

In case of skin contact

In case of contact with skin wash off with soap and 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.

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

! Physician's information / possible symptoms

Headache

Confusion

Dizziness

Physician's information / possible dangers

Risk of the aspiration of the lung.

In case of ingestion risk of pulmonary oedema and pneumonia.

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

Treatment (Advice to doctor)

Continue to monitor for pneumonia and pulmonary oedema.

If swallowed, flush stomach adding activated charcoal.

If swallowed or in the event of vomiting, risk of entering the lungs.

Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam

Dry powder

Carbon dioxide

Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released:

Carbon monoxide (CO)

Flammable vapor-air-mixture are more heavy than air. Inflammation over far distance is possible.



5.3. Advice for firefighters

Special protective equipment for fire-fighters

Do not inhale explosion and/or combustion gases.

Additional information

Cool endangered containers with water spray jet.

Collect contaminated firefighting water separately, must not be discharged into the drains.

! SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ensure adequate ventilation.

Use personal protection.

Keep away sources of ignition.

! For emergency responders

Ensure adequate ventilation.

Remove persons to safety.

Use personal protective clothing.

Use personal protection.

Keep away sources of ignition.

Use breathing apparatus if exposed to vapours/dust/aerosol.

Pay attention to extension of gas especially at ground (heavier than air) and in direction of the wind.

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

Send in suitable containers for recovery or disposal.

Take up with absorbent material (e.g. kieselguhr).

6.4. Reference to other sections

Informations for safe handling see chapter 7.

Informations for personal protective equipment see chapter 8.

Informations for disposal see chapter 13.

! SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid formation of aerosols.

Open and handle container with care!

Keep container tightly closed.

Provide good room ventilation even at ground level (vapours are heavier than air).

Use only in well-ventilated areas.

Use solvent-resistant equipment.

Keep limited supplies at workplace.

General protective measures

Avoid contact with eyes and skin

Do not inhale gases/vapours/aerosols.

Hygiene measures

Provide washing facilities at place of work.

Keep away from food and drink.



Advice on protection against fire and explosion

Keep away from sources of ignition

Vapours can form an explosive mixture with air.

Ignitable mixtures can be formed in the empty container.

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Ventilate store-rooms thoroughly.

Keep only in unopened original container.

Advice on storage compatibility

Do not store together with oxidizing agents.

Further information on storage conditions

Keep locked up, out of reach of children

Protect from heat and direct solar radiation.

Keep container dry, tightly closed and store at cool and aired place.

Do not store at temperature above 25°C (=77°F).

Keep under lock and key or accessible only to specialists or people authorized by them.

Information on storage stability

Storage time: 24 months.

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
71-36-3	butan-1-ol	WEL, 8 hours Short-term	154	50	Sk, R10-22- 37/38-41-67

Additional advice

Occupational exposure limits for mixtures of hydrocarbons.

8.2. Exposure controls

! Respiratory protection

In case of insufficient ventilation or long-term effect use breathing apparatus.

Multi-purpose filter ABEK

Hand protection

Gloves (solvent-resistant)

Glove material specification [make/type, thickness]: FKM, 0,4mm.

Glove material specification [make/type, thickness]: NBR, 0,35mm.

Eye protection

safety goggles

Limitation and surveillance of the environment

Avoid penetration into the subsoil/soil.

Do not discharge into the drains/surface waters/groundwater.

Appropriate engineering controls

Technical exhaustion if there is a long-term exposition



! SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

liquid

Colour

light beige up to light brown

Odour

of ammonia and solvent-like

Odour threshold

n-butanol: 0.012 - 150 mg/m³.

3-methylbut-2-en-1-ol: < 100 ppm (< 358 mg/m³).

ammonia: 5ppm (3.5mg/m³).

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not applicable				
boiling range	116 - 200 °C				
solidifying range	< -15 °C				
Flash point	30 - 34 °C				
Flammable (solid)	not applicable				
Flammability (gas)	not applicable				
Ignition temperature	> 200 °C				
Self ignition temperature					not spontaneously flammable
Lower explosion limit	0,6 Vol-%				
Upper explosion limit	ca. 7,0 Vol-%				
Vapour pressure	<= 7 hPa	20 °C			
Relative density	0,78 - 0,8 g/cm ³	20 °C			
Vapour density	> 1				
Solubility in water					~6% are water-soluble.
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	ca. 3,2 - 7				Value of hydrocarbon components.
Decomposition temperature	not determined				
Viscosity	ca. 1,2 mm ² /s	20 °C			
Solvent concentration	96,1 %				

Vapourisation rate

Mixture of hydrocarbons: 0.16 (ASTM D3539).

n-butanol: 0.44 (ASTM D3539).



Oxidising properties

no

Explosive properties

Not classified as explosive. Vapours can form an explosive mixture with air.

9.2. Other information

Vapours are heavier than air.

SECTION 10: Stability and reactivity

10.1. Reactivity

No further hazardous reactions known if used as directed.

Vapours can form an explosive mixture with air.

10.2. Chemical stability

Stable at ambient temperature.

10.3. Possibility of hazardous reactions

Reactions with oxidising agents.

10.4. Conditions to avoid

Heat and direct solar radiation.

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

10.5. Incompatible materials

Materials to avoid

Reactions with oxidising agents.

10.6. Hazardous decomposition products

No decomposition if used as directed.

! SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 5000 mg/kg		ATE (acute toxicity estimate)	
LD50 acute dermal	> 5000 mg/kg		ATE (acute toxicity estimate)	
LC50 acute inhalation	> 50 mg/l ()		ATE (acute toxicity estimate)	vapours
Irritability skin	irritant			
Irritability eye	risk of strong eye injuries			
Skin sensitization	non-sensitizing			



Specific target organ toxicity (single exposure)

Narcotic effect: STOT SE 3 H336: May cause drowsiness or dizziness.

! Specific target organ toxicity (repeated exposure)

STOT RE 1 H372: Causes damage to central nervous system through prolonged or repeated exposure.

Aspiration hazard

Aspiration hazard: Asp. Tox. 1 H304: May be fatal if swallowed and enters airways.

! Toxicity test (Additional information)

The mixture is not classified as mutagen / not classified as carcinogen / not classified as reproductive toxicant.
benzene: < 100 ppm.

Experiences made from practice

Has a degreasing effect on the skin.

! SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 10,1 mg/l		calculated	NOELR: 0,1 - 0,2 mg/l.
Daphnia	EC50 10,8 mg/l		calculated	NOELR: ~0,3 mg/l.
Algae	EC50 4,5 mg/l		calculated	

12.2. Persistence and degradability

Physico-chemical degradability	90 %	Activated charcoal adsorption	
Biological degradability			readily degradable

12.3. Bioaccumulative potential

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%): Has the potential to bioaccumulate.
n-butanol: Significant accumulation in organisms is not expected (log Pow: 0.88).
3-methylbut-2-en-1-ol: Significant accumulation in organisms is not expected (log Pow: 0.91).
ammonia: Accumulation in organisms is not expected.

12.4. Mobility in soil

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%): Floats on water surface. Is adsorbed by soil and is of low mobility.
3-methylbut-2-en-1-ol: From the water surface the substance is gradually evaporated in the atmosphere.
Adsorption on soil is not expected.
ammonia ...%: The ammonium ion is adsorbed by the soil; very soluble in water.
n-butanol: Moderately to highly mobile in soil.

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
AOX	The product does not contain any organically bound halogens according to the recipe.		



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! General regulation

Acute aquatic environmental hazards: Aquatic Acute 2 H401: Toxic to aquatic life.

Chronic aquatic environmental hazards: Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects.

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into the ground water or aquatic environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.

14 06 03*

Name of waste

other solvents and solvent mixtures

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

Recommendations for the product

For recycling consult manufacturer.

Do not dispose with household waste. Do not discharge into the drains.

Material recycling possible.

Incinerate in suitable incineration plant, but care for official regulations.

Recommendations for packaging

Uncontaminated packaging may be taken for recycling.

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

! SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	UN 3295	UN 3295	UN 3295
14.2. UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S., ENVIRONMENTALLY HAZARDOUS	HYDROCARBONS, LIQUID, N.O.S.	HYDROCARBONS, LIQUID, N.O.S.
14.3. Transport hazard class(es)	3	3	3
14.4. Packing group	III	III	III
14.5. Environmental hazards	Yes	Yes	Yes

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) 3

tunnel restriction code D/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 + 40 - not relevant if used as directed.

! Other regulations (EU)

Regulation (EC) No 648/2004 (Detergents regulation).

Directive 2012/18/EU, Annex I: E2.

VOC standard

VOC content 96,1 %

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: 1.1

Sources of key data used

Own measurements.

Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)

R 10 Flammable.

R 22 Harmful if swallowed.

R 34 Causes burns.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R 50 Very toxic to aquatic organisms.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 65 Harmful: may cause lung damage if swallowed.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapours may cause drowsiness and dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

H226 Flammable liquid and vapour.

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H372 Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.