

chrono clean 1 : 20

**AQUEOUS LIQUID CLEANING CONCENTRATE FOR
DISASSEMBLED WATCH WORKS OF CLOCKS AND WALL CLOCKS
AS WELL AS FOR PRECISION MECHANICS AND ASSEMBLIES**

Description

Cleans and degreases disassembled watch works of clocks and wall clocks, metal precision parts and assemblies in an ultrasonic bath. It removes greases, waxes and resinous oil efficiently. Also traces of rust will be removed step by step.

The cleaning solution is nearly pH-neutral and causes a gentle cleaning.

Brass and copper alloys are brightened. *chrono clean 1 : 20* achieves a temporary corrosion inhibition for steel after cleaning.

Application and dosage

With an ultrasonic bath the concentrate is used in a 1 : 20 dilution ratio with tap water. The cleaning time is between 5 and 15 minutes according to the grade of contamination. Temperature: 60 – 75°C; for hard oils/waxes above their softening points.

After cleaning rinse with water, then with deionized water or waterfree rinsing solution like *elma suprol special* or IPA (isopropyl alcohol) to displace the water completely and let dry by air.

Hotline for application consulting

Working days: Tel. ++49 (0) 7731 882-287. Email: chemlab@elma-ultrasonic.com

Safety recommendations

The concentrate itself is classified as Flammable and Irritant (Xi, R10-41-67) according to the German regulations on dangerous substances / EC directives. Observe the hints indicated in the Safety Data Sheets. Always handle chemicals with care.

Physical-chemical characterisation of the concentrate

Density: 1075 g/l, pH 8.5 (concentrate), flash point: 33°C. Ingredients according to Annex VII, A, EC-Regulation 648/2004 (detergents): <5% amphoteric surfactants, <5% anionic surfactants, 2-Bromo-2-nitropropane-1,3-diol (~2 ppm).

Disposal

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.

The diluted solution can be fed into the public sewage system according to the local regulations.

European waste code: 20 01 29*, „detergents containing dangerous substances“.

Volumes, storage and transport

Available volumes: 1l, 10l and 25l.

Keep only in unopened original container. Keep in a cool place. Do not store with oxidizing agents.

Shelf life: 5 years from date of production (see stamp on label).

Classification for all means of transport: class 3, UN 1274.

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**Safety data-sheet (91/155 EEC)**Printed 08.12.2006
Revision 08.12.2006**chrono clean 1: 20****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

| | |
|---------------------------------|--|
| Name of product | chrono clean 1: 20 |
| Manufacturer/distributor | ELMA Hans Schmidbauer GmbH & Co KG Kolpingstr. 1-7, D-78224 Singen (Htwl.) Phone +49 7731 882-0, Fax +49 7731 882-266 E-Mail info@elma-germany.com Internet www.elma-germany.com |
| Advice | Chemie/Labor Phone +49 7731 882-287 Fax +49 7731 882-266 |
| Emergency advice | Vergiftungs-Informations-Zentrale Freiburg (Sprache/Language: D, GB) Phone +49 761 19240 |

Recommended intended purpose(s)

Cleaning concentrate for the aqueous ultrasonic cleaning of disassembled clockworks and fine mechanic precision parts.

2. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical characterization**

Aqueous mixture of anionic and amphoteric tensides, organic acid, corrosion inhibitors and cosolvent.

! Hazardous ingredients

| CAS-No. | EC-No. | Name | [% weight] | Classification |
|----------------|---------------|--|-------------------|-----------------------|
| 000071-23-8 | 200-746-9 | propan-1-ol | 10 - 20 | F R11; Xi R41; R67 |
| 68411-30-3 | 270-115-0 | alkylbenzenesulphonates, C10-13- alkylderivates, Na-salts | < 5 | Xn R22; Xi R38-41 |
| 93820-52-1 | 298-632-7 | β-Alanine, N-(2-aminoethyl)-N-(2-hydroxyethyl)- , N-coco acyl derivs., monosodium salts | < 5 | Xi R36 |

Additional advice

Application: 1 part concentrate, 20 parts water.

3. HAZARDS IDENTIFICATION**R-phrases**

| | |
|----|---|
| 10 | Flammable. |
| 41 | Risk of serious damage to eyes. |
| 67 | Vapours may cause drowsiness and dizziness. |

4. FIRST AID MEASURES**In case of skin contact**

In case of contact with skin wash off with water.

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.

If swallowed seek medical advice immediately and show the doctor packing or label.

Rinse out mouth and give plenty of water to drink.



5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Alcohol-resistant foam
Dry powder
Carbon dioxide
Water spray jet

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

In the event of fire the following can be released:
Nitrogen gases (NO_x)

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply.
Do not inhale explosion and/or combustion gases.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection.
High risk of slipping due to leakage/spillage of product.

Environmental precautions

Do not discharge into surface waters/groundwater.

Methods for cleaning up

Take up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).
Flush away residues with water.

! 7. HANDLING AND STORAGE

Advice on safe handling

Keep container tightly close.
Take the usual precautions when handling with chemicals.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking
The product is combustible.

Requirements for storage rooms and vessels

Keep only in unopened original container.

Advice on storage compatibility

Do not store with oxidizing agents.
Do not transport and store together with sodium nitrite.

! Further information on storage conditions

Keep container tightly closed and store at cool and aired place.
Keep locked up, out of reach of children
Do not keep at temperatures below 5°C.

Information on storage stability

Storage time: 5 years.

! 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

tightly fitting goggles

General protective measures

Avoid contact with eyes and skin

**Hygiene measures**

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

! 9. PHYSICAL AND CHEMICAL PROPERTIES

Form
liquid

Colour
amber

Odour
alcoholic

Important health, safety and environmental information

| | Value | Temperature | at | Method | Remark |
|-----------------------------------|-------------------------|-------------|----|-----------|---------------|
| pH value in delivery state | 8,5 | 20 °C | | | |
| starts to boil | 95 °C | | | | |
| solidifying range | 5 °C | | | | |
| Flash point | 33 °C | | | DIN 51755 | |
| Autoignition | | | | | no |
| Density | 1,075 g/cm ³ | 20 °C | | | |
| Solubility in water | | | | | multimiscible |
| Solvent concentration | 10 - 20 % | | | | |

Oxidizing properties

no

! 10. STABILITY AND REACTIVITY**Conditions to avoid**

Reactions with oxidising agents.
Reaction with nitric acid

Materials to avoid

Reactions with oxidising agents.
Reaction with nitric acid
Reactions with inorganic acid chlorides.

! Hazardous decomposition products

In the event of fire the following can be released:
Nitrous oxides (NO_x)

! 11. TOXICOLOGICAL INFORMATION**Acute toxicity/Irritability/Sensitization**

| | Value/Validation | Species | Method | Remark |
|--------------------------|--|---------|------------|--------|
| LD 50 acute oral | > 4000 mg/kg | rat | calculated | |
| Irritability skin | non-irritant | | | |
| Irritability eye | irritant - risk of strong eye injuries | | | |

**Experiences made from practice**

Has a degreasing effect on the skin.

Additional information

The product has not been tested. The information is derived from the properties of the individual components.

! 12. ECOLOGICAL INFORMATION**Data on elimination (persistence and degradability)**

| | Elimination rate | Method of analysis | Method | Validation |
|---------------------------------|--|--------------------|------------|------------|
| Biological degradability | >= 90 % | | OECD 302 B | |
| | The product is readily biodegradable to OECD criteria. | | | |

Additional ecological information

| | Value | Method | Remark |
|------------|--|------------|--------|
| COD | ca. 1170 mgO ₂ /g | calculated | |
| AOX | The product does not contain any organically bound halogens according to the recipe. | | |

General regulation

Do not discharge product unmonitored into the environment.

! 13. DISPOSAL CONSIDERATIONS**Waste code No.**

20 01 29*

Name of waste

detergents containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

Recommendations for the product

Product is allowed to discharge into sewage treatment plants, but in accordance with official regulations.

Recommendations for packaging

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

Recommended cleansing agent

Water

! 14. TRANSPORT INFORMATION**! Land and inland navigation transport ADR/RID**

UN 1274 n-PROPANOL, SOLUTION, 3, III

! Marine transport IMDG

UN 1274 n-PROPANOL, SOLUTION, 3, III

! Air transport ICAO/IATA-DGR

UN 1274 n-PROPANOL, SOLUTION, 3, III

! 15. REGULATORY INFORMATION**! Remarks for classification**

The product is classified and labelled in accordance with EC directives/German regulations on dangerous substances.



Safety data-sheet (91/155 EEC)

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Classification

Xi Irritant

R-phrases

10 Flammable.
41 Risk of serious damage to eyes.
67 Vapours may cause drowsiness and dizziness.

S-phrases

2 Keep out of the reach of children.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
39 Wear eye/face protection.
62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
7 Keep container tightly closed.

VOC standard

VOC content 16,7 %

16. OTHER INFORMATION

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.

Sources of key data used

Own measurements.

Wording of the R-phrases specified in chapter 2 (not the classification of the formulation!)

R 11 Highly flammable.
R 22 Harmful if swallowed.
R 36 Irritating to eyes.
R 38 Irritating to skin.
R 41 Risk of serious damage to eyes.
R 67 Vapours may cause drowsiness and dizziness.