



Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)

Printed 22.01.2013
revision 06.09.2010 (GB) Version 1.1

elma redux

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

1.1. Product identifier

Name of product	elma redux
Name of substance	propan-2-ol
Index No	603-117-00-0
EC No	200-661-7
REACH registration number	01-2119457558-25
CAS No	67-63-0

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

Recommended intended purpose(s)

Evaporator liquid reducing the flame temperature of the combustion of hydrogen-oxygen gas mixtures.

1.3. Details of the supplier of the safety data sheet

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-ultrasonic.com Internet www.elma-ultrasonic.com
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Advice	Chemie/Labor: Email: chemlab@elma-ultrasonic.com Phone +49 7731 882-287 Fax +49 7731 882-266
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1.4. Emergency telephone number

Emergency advice	Vergiftungs-Informations-Zentrale Freiburg (Sprache/Language: D, GB) Phone +49 761 19240
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! SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to 67/548/EEC or 1999/45/EC

F; R11
Xi; R36
R67

R-phrases

11	Highly flammable.
36	Irritating to eyes.
67	Vapours may cause drowsiness and dizziness.

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Flam. Liq. 2	H225
Eye Irrit. 2	H319
STOT SE 3	H336

Hazard Statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.



Additional hints

Listed substance (Regulation (EC) No 1272/2008, Annex VI, part 3).

2.2. Label elements

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



GHS02



GHS07

! Signal word

Danger

Hazard Statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P271 Use only outdoors or in a well-ventilated area.

P280 Augenschutz tragen.

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.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P331 Do NOT induce vomiting.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

Hazardous ingredients for labeling

propan-2-ol

2.3. Other hazards

Acute Tox. 5 (oral) H303: May be harmful if swallowed.

! Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

! SECTION 3: Composition/ information on ingredients

3.1. Substances

CAS No 67-63-0

propan-2-ol

EC No 200-661-7

Index No 603-117-00-0

REACH registration number 01-2119457558-25

3.2. Mixtures

not applicable



! SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In the event of persistent symptoms receive medical treatment.

Take affected person into fresh air.

In case of inhalation

Ensure of fresh air.

In the event of symptoms refer for medical treatment.

In case of skin contact

In case of contact with skin wash off immediately with plenty of 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.

Refer to medical treatment.

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 symptoms

Confusion

Dizziness

Physician's information / possible dangers

Risk of the aspiration of the lung.

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

! Treatment (Advice to doctor)

No further informations available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam

Dry powder

Carbon dioxide

Water spray jet

5.2. Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.

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

Ensure adequate ventilation.

Use personal protection.

Keep away sources of ignition.

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

Open and handle container with care!

Keep container tightly closed.

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 - No smoking

The product is easy combustible.

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

Keep only in unopened original container.

Advice on storage compatibility

Do not store together with oxidizing agents.

Further information on storage conditions

Keep container tightly closed.

Keep locked up, out of reach of children

Protect from heat and direct solar radiation.

Store at cool and aired place.

Product is hygroscopic.

Information on storage stability

Storage time: 24 months.



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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
67-63-0	propan-2-ol	WEL, 8 hours Short-term	999 1250	400 500	R11, 36, 67

Additional advice

8.2. Exposure controls

Eye protection

tightly fitting goggles

Additional advice on system design

Technical exhaustion if there is a long-term exposition

! SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form

liquid

Colour

colourless, clear

Odour

alcoholic

! Odour threshold

2.5 - 490 mg/m3

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	not applicable				
boiling point	82 °C				
melting point	-88 °C				
Flash point	12 °C			closed cup	
Flammable solid	not applicable				
Flammability (gas)	not applicable				
Ignition temperature	425 °C				
Autoignition	no				
Lower explosion limit	2 Vol-%				
Upper explosion limit	ca. 12 Vol-%				
Vapour pressure	ca. 42 hPa	20 °C			



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	Value	Temperature	at	Method	Remark
Relative density	0,785 g/cm ³	20 °C			
Vapour density	2,07				
Solubility in water					multimiscible
Partition coefficient (log p_{OW})	0,05	20 °C			
Viscosity dynamic	2,43 mPa*s	20 °C			
Solvent concentration	100 %				

! Vapourisation rate

1.5 (ASTM D3539).

Oxidising properties

no

! Explosive properties

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

9.2. Other information

Product effects hygroscopic.

! 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

Violent reactions with oxidising agents.

Reactions with strong acids.

Reactions with alkali metals.

Reactions with earth alkali metals.

10.4. Conditions to avoid

Formation of explosive gas/air mixtures.

Heat and direct solar radiation.

10.5. Incompatible materials

Materials to avoid

Reactions with strong acids.

Reactions with oxidising agents.

Reactions with alkali metals.

Reactions with earth alkali metals.

10.6. Hazardous decomposition products

Carbon dioxide, if used as directed (combustion).



SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	4396 - 5500 mg/kg	rat		IUCLID
LD50 acute dermal	12800 mg/kg	rabbit		IUCLID
LC50 acute inhalation	72,6 mg/l (4 h)	rat		IUCLID
Irritability skin	non-irritant			IUCLID
Irritability eye	irritant			IUCLID
Skin sensitization	non-sensitizing	Guinea pig		IUCLID

Toxicity test (Additional information)

No experimental indication of genotoxicity in vitro (Ames-test negative) (IUCLID).
No experimental indication of genotoxicity in vivo (micronucleus test negative) (IUCLID).
No experimental indication of teratogenic effects (IUCLID).
No experimental indications of toxic effects were observed in reproduction (IUCLID).
No experimental indications of carcinogenic effects (IUCLID).

Experiences made from practice

May be absorbed through the skin.
Has a degreasing effect on the skin.

! SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 8970 mg/l (48 h)	Leuciscus idus		IUCLID
Daphnia	EC50 13299 mg/l (48 h)	Daphnia magna		IUCLID
Algae	EC50 > 1000 mg/l (72 h)	Desmodesmus subspicatus		IUCLID
Bacteria	EC0 1050 mg/l (16 h)	Pseudomonas putida		IUCLID

12.2. Persistence and degradability

Biological degradability	95 % (21 d)	OECD 301 E	readily degradable
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12.3. Bioaccumulative potential

propan-2-ol: Accumulation in organisms is not expected (log Pow: 0.05).

12.4. Mobility in soil

propan-2-ol: Dissolves in water. Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

No further relevant informations available.



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Additional ecological information

	Value	Method	Remark
COD	2,4 gO ₂ /g	calculated	
AOX	The product does not contain any organically bound halogens according to the recipe.		

General regulation

Do not allow uncontrolled leakage of product into the environment.
Product is not allowed to be discharged into aquatic environment.

! SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.	Name of waste
14 06 03*	other solvents and solvent mixtures

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

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

Recommended cleansing agent

Water

! SECTION 14: Transport information

Land and inland navigation transport ADR/RID

UN 1219 ISOPROPANOL, 3, II, (D/E)

Marine transport IMDG

UN 1219 ISOPROPANOL, 3, II

Air transport ICAO/IATA-DGR

UN 1219 ISOPROPANOL, 3, II

Special precautions for user

no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not relevant

! SECTION 15: Regulatory information

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

VOC standard

VOC content 100 %

15.2. Chemical Safety Assessment

propan-2-ol: For this substance a chemical safety assessment has been carried out.



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! SECTION 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.

Indication of changes: "!" = Data changed compared with the previous version.