

MATERIAL SAFETY DATA SHEET

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

1.1. Product Identifier

KEROX Farben, Effekten colouring liquid

Product number: -

1.2. Relevant identified uses of the substance or mixture and uses advised against
For dental lab use only. Additional material for coloring of zirconium dental restorations.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Kerox Kereskedelmi és Ipari Kft.

Address: H-2038 Sósút, Kerox St. 1.

Tel.: +36 23 382 006 /281

Fax: +36 23 545 215

Email: info@kerodental.net

Supplier

Kerox Kereskedelmi és Ipari Kft.

Address: H-2038 Sósút, Kerox St. 1.

Tel.: +36 23 382 006 /281

Fax: +36 23 545 215

Email: info@kerodental.net

Responsible person: info@kerodental.net

1.4. Emergency telephone number:

Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ)

1097 Budapest, Nagyvárad tér 2.

Tel.: +36 1 476 6464, +36 80 201 199

e-mail: ettsz@okbi.antsz.hu

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified.

For the full text of H-statements mentioned in this Section: see **Section 16**.

2.2. Label elements

Hazard Pictograms:



Signal word

-

Hazard statements

-

Precautionary statements:

-

Supplemental hazard information:

EUH210 - Safety data sheet available on request.

Substances contributing of hazard identification:

-

2.3. Other hazards:

See PBT and vPvB assessment results in section 12.5.

Endocrine disrupting properties: see sections 11.2. and 12.6.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Component	CAS-No.	EC-No.	Index-No.	REACH No.	Concentration [%]	Classification according to Regulation (EC) No. 1272/2008 [CLP]	H-statements	Special concentration limits/M factor/ATE
deionized water, RO	7732-18-5	--	--	--	45-85	--	--	--
Polyethylene glycol 400	25322-68-3	--	--	--	10-20	--	--	--
Hydrochloric acid solution	7647-01-0	231-595-7	017-002-01-X	--	0,01-0,40	Skin Corr. 1B STOT SE 3	H314 H335	Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 % Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 %
Erbium (III)-ion Er ³⁺	18472-30-2	--	--	--	0,1-45	--	--	--
Iron (III)-ion Fe ³⁺	20074-52-6	--	--	--	0-5	--	--	--
Manganese (II)-ion Mn ²⁺	7439-96-5	231-105-1	--	--	0-1	--	--	--
Zirconium (IV)-ion Zr ⁴⁺	15543-40-5	--	--	--	0-1	--	--	--

For the full text of H-statements mentioned in this Section: see Section 16.

The product does not contain Substances of Very High Concern (SVHC).

SECTION 4: First aid measures

4.1. Description of first aid measures

GENERAL INFORMATION:

In case of accident or feeling sick immediately consult a physician. Show this safety data sheet or the product label to the doctor in attendance!

FOLLOWING INGESTION:

Rinse mouth and then drink plenty of water. If symptoms persist consult a doctor.

FOLLOWING INHALATION:

Remove to fresh air; consult a doctor in case of complaints.

FOLLOWING SKIN CONTACT

Wash off with soap and water.

FOLLOWING EYE CONTACT:

Immediately rinse cautiously with water for 10-15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed. May cause mild irritation to eyes, respiratory system, or skin.

4.3. Indication of any immediate medical attention and special treatment needed. Show this safety data sheet or the product label to the doctor in attendance!

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable extinguishing media: Use fire extinguishing methods suitable to surrounding conditions.
Unsuitable extinguishing media: no information available

5.2. Special hazards arising from the substance or mixture:

Toxic fumes may be released due to heat in case of fire.

5.3. Advice for firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots, and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Cool goods and containers exposed to fire with water spray. Extinguishing water should not be allowed to enter drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

6.1.1. For non-emergency personnel.

Avoid contact with skin and eyes. Do not inhale fumes. Provide sufficient ventilation. Wear appropriate personal protective equipment.

6.1.2. For emergency personnel

Wear appropriate personal protective equipment.

See **Sections 7 and 8.**

6.2. Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Prevent product enter cellars and pits.

6.3. Methods and material for containment and cleaning up:

Absorb spilled material with inorganic fluid-absorbing material (diatomaceous earth or universal binder). Collect spilled material and store in acid-proof labelled container (Polyethylene, etc). Dispose of via a licensed waste disposal contractor.

6.4. Reference to other sections

See sections 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

Use only with adequate ventilation.

Use only by trained personnel. Wear safety eyewear and rubber gloves (see section 8.).

Advice on protection against fire and explosion: No special action is required.

7.2. Conditions for safe storage, including any incompatibilities:

Store in original packing. Store tightly closed.

Based on the measurement data, it can be clearly established that during the professional storage of the liquids, the composition of the liquids does not change significantly within a year in the case of storage between 5 and 50°C.

Storage class (LGK Germany): 12

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters: Exposure limits:
Source: GESTIS database
Substance Hydrogen chloride
CAS-No. 7647-01-0

	limit value- eight hours		limit value- short-term	
	[ppm]	[mg/m ³]	[ppm]	[mg/m ³]
BELGIUM	5	8	10 (1)	15 (1)
EUROPEAN UNION	5	8	10 (1)	15 (1)
FINLAND			5 (1)	7,6 (1)
GERMANY (AGS)	2	3	4 (1)	6 (1)
GERMANY (DFG)	2	3	4 (1)	6 (1)
HUNGARY	5	8	10	165 (1)
IRELAND	5	8	10 (1)	15 (1)
ITALY	5	8	10 (1)	15 (1)
LATVIA	5	8	10 (1)	15 (1)
NORWAY			5 (1)	7 (1)
ROMANIA	5	8	10 (1)	15 (1)
SWEDEN	2	3	4 (1)	6 (1)
THE NETHERLANDS		8		15 (1)

Remarks

Belgium	(1) 15 minutes average value
European Union	(1) 15 minutes average value Bold-type: Indicative Occupational Exposure Limit Value (IOELV) ~ (for references see bibliography)
Finland	(1) 15 minutes average value
Germany (AGS)	(1) 15 minutes average value
Germany (DFG)	(1) 15 minutes average value
Hungary	(1) 15 minutes average value
Italy	(1) 15 minutes average value
Latvia	(1) 15 minutes average value
Norway	(1) Ceiling limit value
Romania	(1) 15 minutes average value
Sweden	(1) 15 minutes average value
The Netherlands	(1) 15 minutes average value

Substance Manganese and inorganic compounds

CAS-No. 7439-96-5

Remarks as Mn

	limit value- eight hours		limit value- short-term	
	[ppm]	[mg/m ³]	[ppm]	[mg/m ³]
AUSTRIA		0,2 (1)		1,6 (1)(3)
BELGIUM		0,05 (2)		0,16 (2)(3)
DENMARK		0,2 (1)		0,4 (1)(3)
EUROPEAN UNION		0,05 (2)		0,1 (2)(3)
		0,2 (1)		
		0,05 (2)		

FINLAND	0,2 (1)	
	0,02 (2)	
FRANCE	0,2 (1)	
	0,05 (2)	
GERMANY (AGS)	0,02 (1)	0,16 (1)(3)(4)
	0,2 (2)	1,6 (2)(3)(4)
GERMANY (DFG)	0,02 (1)	0,16 (1)(3)(4)
	0,2 (2)	1,6 (2)(3)(5)
HUNGARY	0,2	
	0,05 (1)	
IRELAND	0,2 (1)	
	0,5 (2)	
ITALY	0,21 (1)	
	0,05 (2)	
LATVIA	0,1 (1)	
NEW ZEALAND	0,2	
	0,02 (1)	
NORWAY	0,2 (1)	
	0,05 (2)	
POLAND	0,2 (1)	
	0,05 (2)	
ROMANIA	0,2 (1)	
	0,05 (2)	
SPAIN	0,2 (1)	
	0,05 (2)	
SWEDEN	0,2 (1)	
	0,05 (2)	
SWITZERLAND	0,5 inhalable aerosol	
THE NETHERLANDS	0,2 (1)	
	0,05 (2)	

Remarks

Austria	(1) Inhalable fraction (2) Respirable fraction (3) 15 minutes average value
Belgium	(1) Inhalable fraction (2) Respirable fraction
Denmark	(1) Inhalable fraction (2) Respirable fraction (3) 15 minutes average value
European Union	(1) Inhalable fraction (2) Respirable fraction Bold-type: Indicative Occupational
Exposure Limit Value (IOELV) ~ (for references see bibliography)	
Finland	(1) Inhalable fraction (2) Respirable fraction
France Italics type:	Indicative statutory limit values (1) Inhalable fraction (2) Respirable fraction
Germany (AGS)	(1) Respirable fraction (2) Inhalable fraction (3) 15 minutes average value (4) STV exceeding factor for permanganates: 1
Germany (DFG)	(1) Respirable fraction (2) Inhalable fraction (3) 15 minutes average value (4) permanganates: STV 0,02 mg/m ³ , (5) permanganates: STV 0,2 mg/m ³
Hungary	(1) Respirable fraction
Ireland	(1) Inhalable fraction (2) Respirable fraction
Italy	(1) Inhalable fraction (2) Respirable fraction
Latvia	(1) Welding aerosol
New Zealand	(1) Respirable fraction
Norway	(1) Inhalable fraction (2) Respirable fraction
Poland	(1) Inhalable fraction (2) Respirable fraction
Romania	(1) Inhalable fraction (2) Respirable fraction
Spain	(1) Inhalable fraction (2) Respirable fraction
Sweden	(1) Inhalable fraction (2) Respirable fraction
The Netherlands	(1) Inhalable fraction (2) Respirable fraction

Substance Zirconium compounds

CAS-No. 7440-67-7

Remarks as Zr, except zirconium tetrachloride

	[ppm]	limit value- eight hours [mg/m ³]	[ppm]	limit value- short- term [mg/m ³]
AUSTRIA		5 inhalable aerosol		
BELGIUM		5		10 (1)
DENMARK		5		10
GERMANY (DFG)		1 inhalable aerosol		1 inhalable aerosol
HUNGARY		5		20 (1)
IRELAND		5		10 (1)
NEW ZEALAND		5		10
NORWAY		5 (1)		
POLAND		5		10
ROMANIA		5 (1)		10 (1) (2)
SINGAPORE		5		
SPAIN		5		10
SWITZERLAND		5 (1)		10 (1) (2)

Remarks

Belgium	(1) 15 minutes average value
Hungary	(1) 15 minutes average value
Ireland	(1) 15 minutes reference period
Norway	(1) Zirconium tetrachloride included.
Romania	(1) Zirconium tetrachloride included (2) 15 minutes average value.
Switzerland	(1) inhalable fraction (2) 15 minutes average value

DNEL: no information available

PNEC: no information available

- 8.2. **Exposure controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Caution is necessary to prevent skin contact, eye contact, cloth contact and spilling into the floor.

5/2020. (II. 6.) ITM decree on the protection of the health and safety of workers exposed to chemical pathogenic factors, pursuant to Section 11(2) in the case of hazardous substances not regulated by limit values, the employer is obliged to reduce the level of exposure to the lowest level expected according to scientific and technical standards, at which level, according to the current state of science, the dangerous substance has no health-damaging effect. When using in an open system, use local exhaust where possible. If local extraction is not possible or is insufficient, adequate ventilation of the work area must be ensured.

General protective and hygienic measures

Use only by trained personnel. Do not eat, drink, or smoke when using this product.
Wash hands after using the product.

Appropriate engineering controls

Use only with adequate ventilation.

Individual protection measures, such as personal protective equipment:



a) eye/face protection

Safety eyewear and/or face protection complying with an approved standard (European Standard EN 166) should be used if the product is sprayed or when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts.

b) skin protection

i. hand protection: Chemical-resistant, impervious gloves complying with an approved standard (European Standard EN374) should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Rubber gloves.

ii. other: body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

c) respiratory protection

If the product is sprayed or if exposed to fumes, the use of a suitable respirator is recommended.

d) thermal hazards

None.

Environmental exposure controls

No information available.

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration, and ventilation. Information on the selection of protective equipment for use with this material, as provided above, is based upon intended, normal usage. If there is different than normal usage of the material, it is advised to consult a safety specialist about the type of personal protective equipment and other actions that should be taken.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Properties	Investigation method	Remark
state of matter	liquid	
colour	yellowish, pink, transparent	
odour	slightly stinging	
odour threshold	no data available	
melting point/freezing point	no data available	
initial boiling point and boiling range	100° C	
flammability	not flammable	

Properties	Investigation method	Remark
Upper/lower flammability or explosive limits	no data available	
flash point	not applicable	
auto-ignition temperature	no data available	
decomposition temperature	no data available	
pH	1-2	
kinematic viscosity	no data available	
solubility	soluble in water	
Partition coefficient: n-octanol/water	no data available	
vapour pressure	no data available	
Density and/or relative density	relative density: 1,0 g/mL	
Relative vapour density	no data available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not classified based on available information.

9.2.2. Other safety characteristics
No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
Unknown

10.4. Conditions to avoid.
Unknown

10.2. Chemical stability
Stable in case of adequate storage

10.5. Incompatible materials
Unknown

10.3. Possibility of hazardous reactions
Unknown

10.6. Hazardous decomposition products
In case of fire see section 5.

SECTION 11: Toxicological information

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

Acute toxicity:
No information available.

Reproductive toxicity:
No information available.

Skin corrosion / irritation:
No information available.

STOT-single exposure:
No information available.

Serious eye damage/irritation:
No information available.

STOT-repeated exposure:
No information available.

Respiratory or skin sensitization:
No information available.

Aspiration hazard:
No information available.

Germ cell mutagenicity:
No information available.

Relevant toxicological data:
No information available.

Carcinogenicity:
No information available.

Information on likely routes of exposure:
No information available.

Symptoms related to the physical, chemical and toxicological characteristics:

- Skin contact: Nospecificinformationavailable.
- Eye contact: Nospecificinformationavailable.
- Inhalation: Nospecificinformationavailable.
- Ingestion: Nospecificinformationavailable.
- Other: Nospecificinformationavailable.

Delayed and immediate effects as well as chronic effects from short- and long-term exposure:

See Section 4. 2.

Interactive effects:

No information available.

Mixtures:

No information available.

Absence of specific data:

No information available.

Mixture versus substance information:

No information available.

11.2 Information on other hazards

Endocrine disrupting properties

None of the components (see section 3) are listed.

Other information

No information available.

SECTION 12: Ecological information

Do not allow product to reach surface water, waterways, or soil.

12.1. Toxicity

No information available. No adverse ecological effects are expected if handled and used according to manufacturer's specifications.

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

According to Regulation 1907/2006/EC Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XIII: The product does not meet the criteria for PBT and vPvB.

12.6. Endocrine disrupting properties

None of the components (see section 3) are listed.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

Waste treatment methods

13.1. Product disposal:

Dispose of contents in accordance with local/regional/national/international regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Packaging disposal:

Dispose of container in accordance with local/regional/national/international regulations.

Physical, chemical properties, which could influence waste management:

No information available.

Sewage disposal-relevant information:

No information available.

SECTION 14: Transport information

Product is not classified as a dangerous good for transport.

ADR/RID

- 14.1 UN number or ID number: -
- 14.2 UN proper shipping name: -
- 14.3 Transport Hazard Class(es): -
- 14.4 Packing group: -
- 14.5 Environmental hazards: -
- 14.6 Special precautions for user: -

AND

- 14.1 UN number or ID number: -
- 14.2 UN proper shipping name: -
- 14.3 Transport Hazard Class(es): -
- 14.4 Packing group: -
- 14.5 Environmental hazards: -
- 14.6 Special precautions for user: -

IMDG

- 14.1 UN number or ID number: -
- 14.2 UN proper shipping name: -
- 14.3 Transport Hazard Class(es): -
- 14.4 Packing group: -
- 14.5 Environmental hazards: -
- 14.6 Special precautions for user: -

ICAO-TI/IATA-DGR

- 14.1 UN number or ID number: -
- 14.2 UN proper shipping name: -
- 14.3 Transport Hazard Class(es): -
- 14.4 Packing group: -
- 14.5 Environmental hazards: -
- 14.6 Special precautions for user: -

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

EU Regulations:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

COMMISSION REGULATION (EU) No 348/2013 of 17 April 2013 amending Annex XIV to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).

15.2. Chemical safety assessment:

Chemical safety assessment has not been carried out for this product.

SECTION 16: Other information

Identification of changes

v2.0 Revision and harmonization of the data sheet in accordance with applicable international legislation.

Abbreviations and acronyms:

ATE: Acute toxicity estimate.
PBT: persistent, bioaccumulative and toxic.
vPvB: very persistent, very bioaccumulative.
LD50: lethal dose,
LC50: Lethal concentration.
EC50: Effective concentration.
EWC: European Waste Catalogue.
IARC: International Agency for Research on Cancer.
RTECS: Registry of Toxic Effects of Chemical Substances.
VOC: Volatile Organic Carbon.
DNEL: Derived no effect level.
DMEL: Derived minimal effect level
PNEC: Predicted No Effect Concentration.
LFL: Lower Flammable Limit.
UFL: Upper Flammability Limit.
LEL: Lower Explosion Limit.
UEL: Upper Explosion Limit.
STOT: Specific Target Organ Toxicity.
LDLo: Lethal dose, low.
IC50: Inhibitory concentration.
SVHC: Substances of very high concern.
NOAEL: No-observed-adverse-effect level.
LOAEL: Lowest-observed-adverse-effect level.

Full text of H-statements from section 2 and 3:

H314 – Causes severe skin burns and eye damage.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.
EUH 210 – Safety data sheet available on request

Full text of P-statements from section 2 and 3: -

Further training advice:

No information available.

Recommended restrictions on use:

No information available.

This Safety Data Sheet was prepared on the basis of documentation provided by the manufacturer and complies with the requirements of Regulation (EC) No. 878/2020