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according to 1907/2006/EC, Article 31

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

- **1.1 Product identifier**

- **Trade name: ergo 1470**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Adhesives

- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Kisling AG
Motorenstrasse 102
CH-8620 Wetzikon
Tel: +41- 58-272 0 272

- **Only representative (REACH) and importer (CLP):**
Kisling Deutschland GmbH
Salzstraße 15
D-74676 Niedernhall
Tel +49 8171 99982 30

- **Further information obtainable from:** ergo@kisling.com
- **Department issuing MSDS:** ergo@kisling.com
- **1.4 Emergency telephone number:** +49-700-24 112 112 (KAR)

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SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

GHS07

- **Signal word** Warning

- **Hazard-determining components of labelling:**
2-hydroxyethyl methacrylate
triethylene-glycol-dimethacrylate
ethylene dimethacrylate
- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
- **Precautionary statements**
P261 Avoid breathing vapours.
P280 Wear protective gloves / eye protection.

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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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

- **Labelling of packages where the contents do not exceed 125 ml**
- **Hazard pictograms**

GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**
2-hydroxyethyl methacrylate
triethylene-glycol-dimethacrylate
ethylene dimethacrylate
- **Hazard statements**
H317 May cause an allergic skin reaction.
- **Precautionary statements**
P261 Avoid breathing vapours.
P280 Wear protective gloves / eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Adhesive

- **Dangerous components:**		
CAS: 868-77-9 EINECS: 212-782-2 Index number: 607-124-00-X Reg.nr.: 01-2119490169-29-xxxx	2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	> 50 - ≤ 100%
CAS: 20882-04-6 EINECS: 244-096-4	{2-[(2-methyl-1-oxoallyl)oxy]ethyl} hydrogen succinate Skin Irrit. 2, H315; Eye Irrit. 2, H319	> 1 - ≤ 5%
CAS: 80-15-9 EINECS: 201-254-7 Index number: 617-002-00-8	α,α -dimethylbenzyl hydroperoxide Org. Perox. E, H242; Acute Tox. 3, H331; STOT RE 2, H373; Skin Corr. 1B, H314; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Acute Tox. 4, H312; STOT SE 3, H335; Flam. Liq. 4, H227	> 1 - < 2.5%
CAS: 109-16-0 EINECS: 203-652-6 Reg.nr.: 01-2119969287-21-xxxx	triethylene-glycol-dimethacrylate Skin Sens. 1, H317	≤ 1%
CAS: 114-83-0 EINECS: 204-055-3	2'-phenylacetohydrazide Acute Tox. 3, H301	≤ 1%
CAS: 102-82-9 EINECS: 203-058-7	tributylamine Acute Tox. 3, H311; Acute Tox. 1, H330; Acute Tox. 4, H302; Skin Irrit. 2, H315	≤ 1%

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CAS: 97-90-5 EINECS: 202-617-2 Index number: 607-114-00-5 Reg.nr.: 01-2119965172-38-xxxx	ethylene dimethacrylate Skin Sens. 1, H317; STOT SE 3, H335	≥ 0.1 - < 1%
CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4	1,4-dihydroxybenzene Muta. 2, H341; Carc. 2, H351; Eye Dam. 1, H318; Aquatic Acute 1, H400; Acute Tox. 4, H302; Skin Sens. 1, H317	< 0.025%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
After contact with skin, wash immediately with plenty of soap and water.
If skin irritation continues, consult a doctor.
- **After eye contact:**
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If swallowed, do not induce vomiting: seek medical advice and show this container or label.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide
Danger of forming toxic pyrolysis products.
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

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- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow product to reach sewage system or any water course.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 10 for information on "stability and reactivity".
See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
No special precautions are necessary if used and stored according to specifications.

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.
- **Storage class (TRGS 510, Storage of hazardous substances in non-stationary containers):** 10-13
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**	
868-77-9 2-hydroxyethyl methacrylate	
MAK (Germany)	vgl.Abschn.IIb
80-15-9 α,α -dimethylbenzyl hydroperoxide	
MAK (Germany)	als Dampf und Aerosol;vgl.Abschn.Xa
109-16-0 triethylene-glycol-dimethacrylate	
MAK (Germany)	vgl.Abschn.IV
102-82-9 tributylamine	
MAK (Germany)	als Dampf und Aerosol;vgl.Abschn.IIb
97-90-5 ethylene dimethacrylate	
MAK (Germany)	als Dampf und Aerosol;vgl.Abschn.IV
123-31-9 1,4-dihydroxybenzene	
MAK (Germany)	als Dampf und Aerosol

- **DNELs**		
123-31-9 1,4-dihydroxybenzene		
Dermal	Longterm System	64 mg/kg bw/day (General population) 128 mg/kg bw/day (Worker)

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Inhalative	Longterm Local	0.5 mg/m³ (General population)
		1 mg/m³ (Worker)
	Longterm System	1.74 mg/m³ (General population)
		7 mg/m³ (Worker)

- **PNECs**

123-31-9 1,4-dihydroxybenzene	
PNEC Freshwater	0.114 mg/l
PNEC Freshwater sed	0.00098 mg/kg
PNEC Marinewater	0.0114 mg/l
PNEC Soil	0.000129 mg/kg
PNEC STP	0.71 mg/l
PNEC Marinewater sed	0.000097 mg/kg

- **CAS No. Designation of material % Type Value Unit**

- **Additional Occupational Exposure Limit Values for possible hazards during processing:**

144-62-7 oxalic acid	
IOELV (European Union)	Long-term value: 1 mg/m³
AGW (Germany)	Long-term value: 1 E mg/m³ 1(I);H, EU, 13

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Filter A/P2
- **Protection of hands:**
Protective gloves (EN 374)
Check protective gloves prior to each use for their proper condition.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
Find below a list of appropriate protective gloves for chemical surrounding:
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Permeation time / penetration time: = 480 minutes (DIN EN 374):
Naturlatex I , Nr. 0395 oder 0403
Chloropren Nitril II, Nr. 0717
Chloropren Nitril I, Nr. 0727
Nitril I, Nr. 0730, 0732, 0733, 0736, 0737, 0738, 0739 oder 0836
Nitril VI, Nr. 0754
Nitril V, Nr. 0764
Viton, Nr. 0890
Butyl II, Nr. 0897
Butyl, Nr. 0898
.
of KCL company (e-mail: vertrieb@kcl.de).

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The recommendation is based exclusively on the chemical compatibility and the test according to EN374 under laboratory conditions.
Requirements can vary according to the use. Therefore, please always take into account the glove supplier's recommendations.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

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SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**	
- **General Information**	
- **Appearance:**	
Form:	Fluid
Colour:	Green
- **Odour:**	Characteristic
- **Odour threshold:**	Not determined.
- **pH-value:**	Not determined.
- **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
- **Flash point:**	> 90 °C
- **Flammability (solid, gas):**	Not applicable.
- **Decomposition temperature:**	Not determined.
- **Auto-ignition temperature:**	Product is not self-igniting.
- **Explosive properties:**	Product does not present an explosion hazard.
- **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
- **Oxidising properties**	Not determined.
- **Vapour pressure:**	Not determined.
- **Density at 20 °C:**	1.04 - 1.08 g/cm³
- **Relative density**	Not determined.
- **Vapour density**	Not determined.
- **Evaporation rate**	Not determined.
- **Solubility in / Miscibility with water:**	Not miscible or difficult to mix.
- **Partition coefficient: n-octanol/water:**	Not determined.
- **Viscosity:**	
Dynamic at 25 °C:	50 - 60 mPas (Brookfield (2/100))
Kinematic:	Not determined.

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- **9.2 Other information** No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
Protect from heat and direct sunlight.
- **10.3 Possibility of hazardous reactions** Reacts with metal-salts.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
No dangerous products of decomposition if used and stored according to specifications.

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SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**		
868-77-9 2-hydroxyethyl methacrylate		
Oral	LD50	5,050 mg/kg (Rat, male/female)
Dermal	LD50	3,000 mg/kg (Rabbit)
80-15-9 α,α -dimethylbenzyl hydroperoxide		
Oral	LD50	382 mg/kg (Rat, male/female)
Dermal	LD50	500 mg/kg (Rat, male/female)
Inhalative	LC50/4 h	1.37 mg/l (Rat, male/female)
114-83-0 2'-phenylacetohydrazide		
Oral	LD50	270 mg/kg (Rat, male/female)
102-82-9 tributylamine		
Inhalative	LC50/4 h	0.5 mg/l (Rat, male/female)
97-90-5 ethylene dimethacrylate		
Oral	LD50	3,300 mg/kg (Rat, male/female)
123-31-9 1,4-dihydroxybenzene		
Oral	LD50	375 mg/kg (Rat, male/female) (OECD 401)
Dermal	LD50	> 2,000 mg/kg (Rabbit) (OECD 402)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **Additional toxicological information:**
No experimentally found toxicological data are available for this preparation.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

- **Toxicity to fish:**	
868-77-9 2-hydroxyethyl methacrylate	
LC50/96 h	213 - 242 mg/l (Pimephales promelas)
123-31-9 1,4-dihydroxybenzene	
LC50/96 h	0.638 mg/l (Oncorhynchus mykiss)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxical effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Harmful to aquatic organisms
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Danger to drinking water if even small quantities leak into the ground.
Do not allow product to reach ground water, water course or undiluted sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal must be made according to official regulations.

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number** - **ADR, IMDG, IATA**	Void
- **14.2 UN proper shipping name** - **ADR, IMDG, IATA**	Void
- **14.3 Transport hazard class(es)** - **ADR, ADN, IMDG, IATA** - **Class**	Void
- **14.4 Packing group** - **ADR, IMDG, IATA**	Void
- **14.5 Environmental hazards:**	Not applicable.
- **14.6 Special precautions for user**	Not applicable.

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- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
- **UN "Model Regulation":**	Void

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **National regulations:**

- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H227 Combustible liquid.
H242 Heating may cause a fire.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 4: Flammable liquids – Category 4
Org. Perox. E: Organic peroxides – Type E/F

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Acute Tox. 4: Acute toxicity - oral – Category 4
Acute Tox. 1: Acute toxicity - inhalation – Category 1
Acute Tox. 3: Acute toxicity - inhalation – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

- * Data compared to the previous version altered.