

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 12.04.2023

Version number 2 (replaces version 1)

Revision: 12.04.2023

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

- 1.1 Product identifier

- Trade name: **4451**

- 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

- Further information obtainable from: Product safety department

- Department issuing MSDS: info@kisling.com

- 1.4 Emergency telephone number:

Tox Info Suisse: 145 / +41-44-2 51 51 51
+49-700-24 112 112 (KAR)
+1 872 5888271

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 Dam. 1	H318 Causes serious eye damage.
Skin Sens. 1	H317 May cause an allergic skin reaction.
STOT SE 3	H335 May cause respiratory irritation.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

- 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



GHS05 GHS07

- Signal word Danger

- Hazard-determining components of labelling:

methacrylic acid, monoester with propane-1,2-diol
acrylic acid
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane

- Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

- Precautionary statements

P261 Avoid breathing vapours.

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- P280 Wear protective gloves / eye protection.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 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/doctor.
 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.**SECTION 3: Composition/information on ingredients****- 3.2 Mixtures****- Description:** Adhesive**- Dangerous components:**

CAS: 27813-02-1 EINECS: 248-666-3 Index number: 607-125-00-5	methacrylic acid, monoester with propane-1,2-diol ----- Eye Irrit. 2, H319; Skin Sens. 1, H317	> 15 - ≤ 30%
CAS: 79-10-7 EINECS: 201-177-9 Index number: 607-061-00-8	acrylic acid ----- Flam. Liq. 3, H226; Skin Corr. 1A, H314; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332 Specific concentration limit: STOT SE 3; H335: C ≥ 1 %	≥ 3 - < 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 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 10 % Skin Irrit. 2; H315: 3 % ≤ C < 10 % Eye Dam. 1; H318: C ≥ 3 % Eye Irrit. 2; H319: 1 % ≤ C < 3 % STOT SE 3; H335: C < 10 %	> 1 - < 2.5%
CAS: 2530-83-8 EINECS: 219-784-2	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane ----- Eye Dam. 1, H318; Aquatic Chronic 3, H412	> 1 - < 2.5%
CAS: 114-83-0 EINECS: 204-055-3	2'-phenylacetohydrazide ----- Acute Tox. 3, H301	≤ 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 (M=10); 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:** Immediately 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.

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- **After eye contact:**
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **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
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **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.

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- 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.**SECTION 8: Exposure controls/personal protection****- 8.1 Control parameters****- Ingredients with limit values that require monitoring at the workplace:****79-10-7 acrylic acid**

MAK (Switzerland)	Short-term value: 59 mg/m ³ , 20 ppm Long-term value: 29 mg/m ³ , 10 ppm S SSc;
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123-31-9 1,4-dihydroxybenzene

MAK (Switzerland)	Short-term value: 2 e mg/m ³ Long-term value: 2 e mg/m ³ H S C2 M2;
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- DNELs**27813-02-1 methacrylic acid, monoester with propane-1,2-diol**

Dermal	Longterm System	4.2 mg/kg bw/day (General population)
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2530-83-8 [3-(2,3-epoxypropoxy)propyl]trimethoxysilane

Dermal	Acute, System	21 mg/kg bw (Worker)
	Longterm System	21 mg/kg bw/day (Worker)
Inhalative	Acute, System	147 mg/m ³ (Worker)
	Longterm System	147 mg/m ³ (Worker)

123-31-9 1,4-dihydroxybenzene

Dermal	Longterm System	64 mg/kg bw/day (General population)
		128 mg/kg bw/day (Worker)
Inhalative	Longterm Local	0.5 mg/m ³ (General population)
		1 mg/m ³ (Worker)
	Longterm System	1.74 mg/m ³ (General population)
		7 mg/m ³ (Worker)

- PNECs**27813-02-1 methacrylic acid, monoester with propane-1,2-diol**

Oral	PNEC oral	mg/kg Food (General population)
	PNEC Freshwater	0.904 mg/l (General population)
	PNEC Freshwater sed	6.28 mg/kg (General population)
	PNEC Marinewater	0.904 mg/l (General population)
	PNEC Soil	0.727 mg/kg (General population)
	PNEC STP	10 mg/l (General population)
	PNEC Marinewater sed	6.28 mg/kg (General population)

2530-83-8 [3-(2,3-epoxypropoxy)propyl]trimethoxysilane

	PNEC Freshwater	1 mg/l
	PNEC Marinewater	0.1 mg/l

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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

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

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see section 7.

- **Individual protection measures, such as 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.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A/P2

- **Hand protection**

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):

Nitril I, Nr. 0730, 0732, 0733, 0736, 0737, 0738, 0739 oder 0836

Viton, Nr. 0890

Butyl II, Nr. 0897

Butyl, Nr. 0898

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Permeation time / penetration time: = 240 minutes (DIN EN 374):

Naturlatex I, Nr. 0395 oder 0403

Chloropren Nitril II, Nr. 0717

Chloropren, Nr. 0720, 0722, 0723, 0725 oder 0726

Nitril VI, Nr. 0754

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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.

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Permeation time / penetration time: see above (material of gloves)
 - Eye/face protection Tightly sealed goggles

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Colour:	Green
- Odour:	Characteristic
- Odour threshold:	Not determined.
- Melting point/freezing point:	Undetermined.
- Boiling point or initial boiling point and boiling range	Undetermined.
- Flammability	Not applicable.
- Lower and upper explosion limit	
- Lower:	Not determined.
- Upper:	Not determined.
- Flash point:	> 100 °C
- Decomposition temperature:	Not determined.
- pH at 20 °C	4 - 5
- Viscosity:	
- Kinematic viscosity	Not determined.
- Dynamic at 20 °C:	2,000 mPas (Brookfield (3/20))
- Solubility	
- water:	Not miscible or difficult to mix.
- Partition coefficient n-octanol/water (log value)	Not determined.
- Vapour pressure:	Not determined.
- Density and/or relative density	
- Density at 20 °C:	1.1 g/cm ³
- Relative density	Not determined.
- Vapour density	Not determined.

- 9.2 Other information

- Appearance:	
- Form:	Fluid
- Important information on protection of health and environment, and on safety.	
- Ignition temperature:	Product is not self-igniting.
- Explosive properties:	Product does not present an explosion hazard.
- Change in condition	
- Softening point/range	
- Oxidising properties	Not determined.
- Evaporation rate	Not determined.

- Information with regard to physical hazard classes

- Explosives	Void
- Flammable gases	Void
- Aerosols	Void
- Oxidising gases	Void
- Gases under pressure	Void
- Flammable liquids	Void
- Flammable solids	Void
- Self-reactive substances and mixtures	Void
- Pyrophoric liquids	Void
- Pyrophoric solids	Void
- Self-heating substances and mixtures	Void

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- Substances and mixtures, which emit flammable gases in contact with water	Void
- Oxidising liquids	Void
- Oxidising solids	Void
- Organic peroxides	Void
- Corrosive to metals	Void
- Desensitised explosives	Void

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.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- LD/LC50 values relevant for classification:

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)

2530-83-8 [3-(2,3-epoxypropoxy)propyl]trimethoxysilane

Oral	LD50	8,025 mg/kg (Rat, male/female) (OECD TG 401)
Dermal	LD50	4,250 mg/kg (Rabbit) (OECD TG 402)

114-83-0 2'-phenylacetohydrazide

Oral	LD50	270 mg/kg (Rat, male/female)
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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)

- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **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**
May cause respiratory irritation.
- **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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- **Additional toxicological information:**
No experimentally found toxicological data are available for this preparation.
- **11.2 Information on other hazards**

- Endocrine disrupting properties
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None of the ingredients is listed.

SECTION 12: Ecological information

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

- Toxicity to fish:

123-31-9 1,4-dihydroxybenzene

LC50/96 h 0.638 mg/l (Oncorhynchus mykiss)
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- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
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.

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 or ID 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 Maritime transport in bulk according to IMO instruments	Not applicable.
- UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

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

- H226 Flammable liquid and vapour.
- H242 Heating may cause a fire.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful 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.
- H412 Harmful to aquatic life with long lasting effects.

- Abbreviations and acronyms:

- ADR: Accord relatif au transport international 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. 3: Flammable liquids – Category 3
- Org. Perox. E: Organic peroxides – Type E/F
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 3: Acute toxicity – Category 3
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- 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

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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
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
- * Data compared to the previous version altered.

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