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

· **1.1 Product identifier**

· **Trade name: Uniroll-D Teil 1**

· **Article number:** 10510-A
· **UFI:** EM00-Q0KU-V00R-FV3J

· **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**
Photochemicals
Developer for X-ray films
Reserved for industrial and professional use.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Calbe Chemie GmbH
Stadtfeld 31
D-39240 Calbe
Tel.: +49 (0)39291 425-0
Fax: +49 (0)39291 425-25
e-mail: info@calbe-chemie.de
www.calbe-chemie.de

· **Informing department:**
Tel.: +49 (0)39291 42515
E-Mail: rs@calbe-chemie.de
· **1.4 Emergency telephone number:**
Tel.: +49 (0) 700-24112112 (CAL)
Tel.: +1 872 5888271(CAL)

SECTION 2: Hazards identification

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

GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.
Carc. 2 H351 Suspected of causing cancer.

GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

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GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.


GHS07

Skin Irrit. 2 H315 Causes skin 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**


GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**
hydroquinone
potassium hydroxide
· **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
· **Precautionary statements**

P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection.
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.
P501	Dispose of contents/container in accordance with local/regional/ national/international regulations.

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· **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:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 123-31-9 EINECS: 204-617-8	hydroquinone Muta. 2, H341; Carc. 2, H351 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Acute Tox. 4, H302; Skin Sens. 1, H317	5 - 10%
CAS: 111-46-6 EINECS: 203-872-2	2,2'-oxybisethanol STOT RE 2, H373 Acute Tox. 4, H302	≥ 5 - < 10%
CAS: 584-08-7 EINECS: 209-529-3	potassium carbonate Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2 - 5%
CAS: 10043-35-3 EINECS: 233-139-2	boric acid Repr. 1B, H360FD	2 - 5%
CAS: 1310-58-3 EINECS: 215-181-3	potassium hydroxide Met. Corr.1, H290; Skin Corr. 1A, H314 Acute Tox. 4, H302 Specific concentration limits: Skin Corr. 1A; H314: C≥ 5 % Skin Corr. 1B; H314: 2 % ≤ C < 5 % Skin Irrit. 2; H315: 0.5 % ≤ C < 2 % Eye Irrit. 2; H319: 0.5 % ≤ C < 2 %	≥ 0.5 - < 2%

· **SVHC**

10043-35-3	boric acid

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

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information**
Personal protection for the First Aider.
Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

· **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 minutes).
Remove contact lenses, if present and easy to do.
Protect uninjured eye.
Call a doctor immediately.

· **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; instantly call for medical help.
· **4.2 Most important symptoms and effects, both acute and delayed**
No known symptoms to date.
· **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, extinguishing powder or water jet. Fight larger fires with water spray jet or alcohol-resistant foam.
Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
· **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Sulphur oxides (SOx)
Carbon monoxide
· **5.3 Advice for firefighters**

· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:

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Put on breathing apparatus.

· **Additional information** The product is not flammable

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
· **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Do not handle until all safety precautions have been read and understood.
· **Information about protection against explosions and fires:**
No special measures required.
The product is not flammable

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:**
Store only in unopened original containers.
Keep container tightly closed in a cool, well-ventilated place.
· **Information about storage in one common storage facility:**
Keep away from foodstuffs, beverages and food.
Do not store together with acids.
Store away from oxidising agents.
· **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in a cool place.
· **Recommended storage temperature:** 5-25°C
· **Storage class** 12

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· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
123-31-9 hydroquinone	
OEL (Ireland)	Long-term value: 0.5 mg/m³ Sens
111-46-6 2,2'-oxybisethanol	
OEL (Ireland)	Long-term value: 100 mg/m³, 23 ppm
10043-35-3 boric acid	
OEL (Ireland)	Long-term value: 2 mg/m³ Repr. 1B
1310-58-3 potassium hydroxide	
OEL (Ireland)	Short-term value: 2 mg/m³

· **Additional information:**
The lists that were valid during the compilation 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 should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.
Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke while working.
Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.

· **Hand protection**
Protective gloves.
The protective gloves to be used must comply with the specifications of the (EU) 2016/425 and the resultant standard EN 374.
This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.

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Only use chemical-protective gloves with CE-labelling of category III.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

	Thickness (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480

Avoid natural rubber gloves.

· **As protection from splashes gloves made of the following materials are suitable:**
Synthetic gloves
Value for permeation: Level ≥ 3 (60 min)

· **Eye/face protection** Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Fluid
· **Colour:**	Light yellow Clear
· **Odour:**	Not characteristic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	< 5 °C
· **Boiling point or initial boiling point and boiling range**	> 100 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable
· **Decomposition temperature:**	Not determined.
· **pH at 25 °C**	10.9
· **Viscosity:**	
· **Kinematic viscosity**	Not determined
· **dynamic:**	Not determined

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· **Solubility**	
· **Water:**	miscible
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density and/or relative density**	
· **Density at 20 °C**	1.291 g/cm³
· **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.**	
· **Self-inflammability:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive.
· **Solvent content:**	
· **Organic solvents:**	5.2 %
· **Water:**	~ 60 %
· **Change in condition**	
· **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
· **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

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· **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 according to specifications.
· **10.3 Possibility of hazardous reactions**
Reacts with strong acids
Reacts with acids releasing sulphur dioxide
· **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 decomposition products known

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 that are relevant for classification:**

ATE (Acute Toxicity Estimates)		
Oral	LD50	4,325 mg/kg (rat)
Dermal	LD50	> 394 mg/kg
Inhalative	LC50/4 h	> 25.6 mg/l

· **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** Suspected of causing genetic defects.
· **Carcinogenicity** Suspected of causing cancer.
· **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.
· **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.
· **Additional toxicological information:**
Dangerous for the environment.
This statement was deduced from the properties of the single components.

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· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Not determined

· **Behaviour in environmental systems:** Not determined
· **12.3 Bioaccumulative potential** Not determined
· **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**

· **Ecotoxical effects:** No further relevant information available.
· **Remark:** Very toxic for fish

· **Behaviour in sewage processing plants:** Not determined

· **Additional ecological information:**

· **General notes:**
This statement was deduced from the properties of the single components.
Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
At present there are no ecotoxicological assessments.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Very toxic for aquatic organisms
The product does not contain organically bounded halogens (AOX-free).

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated under adherence to official regulations.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

· **European waste catalogue**	
16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
HP4	Irritant - skin irritation and eye damage
HP7	Carcinogenic
HP10	Toxic for reproduction
HP11	Mutagenic
HP14	Ecotoxic

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
EAK-No. 15 01 10
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR/RID, IMDG, IATA**	UN3082
· **14.2 UN proper shipping name**	
· **ADR/RID, IATA**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

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· **IMDG**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), MARINE POLLUTANT
· **14.3 Transport hazard class(es)**	
· **ADR/RID, IMDG, IATA**	
· **Class**	9 Miscellaneous dangerous substances and articles.
· **Label**	9
· **14.4 Packing group**	
· **ADR/RID, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	Yes Symbol (fish and tree)
· **Special marking (ADR/RID):**	Symbol (fish and tree)
· **Special marking (IATA):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Miscellaneous dangerous substances and articles.
· **Kemler Number:**	90
· **EMS Number:**	F-A,S-F
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general. See the following notes.
· **ADR/RID**	Goods are not subject to the provisions in accordance with the special provision 375 ADR.
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml

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·	Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	Goods are not subject to the provisions in accordance with 2.10.2.7 IMDG-Code.
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **IATA**	Goods are not subject to the provisions in accordance with the special provision A197 IATA-DGR.
· **UN "Model Regulation":**	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HYDROQUINONE), 9, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**
hydroquinone
potassium hydroxide
· **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.

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H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.

· **Precautionary statements**

P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection.
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.
P501	Dispose of contents/container in accordance with local/regional/ national/international regulations.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** E1 Hazardous to the Aquatic Environment
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **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.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **National regulations**

· **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

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· **Decree to be applied in case of technical fault:**

Class	Share in %
I	6.2
NK	5.2

· **Water hazard class:**
Water danger class 3 (Self-assessment): highly water-endangering.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
10043-35-3	boric acid

· **15.2 Chemical safety assessment:**
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H290 May be corrosive to metals.
H302 Harmful if swallowed.
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.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

· **Recommended restriction of use** No public product, only for commercial use
· **Version number of previous version:** 12.2
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
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

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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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
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
Repr. 1B: Reproductive toxicity – Category 1B
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

· **Sources**
applicable EEC directives:
- 1907/2006
- 1272/2008
Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance (GESTIS-database on hazardous substances), http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp

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

· **1.1 Product identifier**

· **Trade name: Uniroll-D Teil 2**

· **Article number:** 10510-B
· **UFI:** 5Q00-7098-6008-46PM

· **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**
Photochemicals
Developer for X-ray films
Reserved for industrial and professional use.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Calbe Chemie GmbH
Stadtfeld 31
D-39240 Calbe
Tel.: +49 (0)39291 425-0
Fax: +49 (0)39291 425-25
e-mail: info@calbe-chemie.de
www.calbe-chemie.de

· **Informing department:**
Tel.: +49 (0)39291 42515
E-Mail: rs@calbe-chemie.de
· **1.4 Emergency telephone number:**
Tel.: +49 (0) 700-24112112 (CAL)
Tel.: +1 872 5888271(CAL)

SECTION 2: Hazards identification

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


GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.


GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

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GHS07

Acute Tox. 4	H302 Harmful if swallowed.
Acute Tox. 4	H332 Harmful if inhaled.
Skin Sens. 1	H317 May cause an allergic skin reaction.
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 GHS08

· **Signal word** Danger
· **Hazard statements**

H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P280	Wear protective gloves / eye protection.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position 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.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 111-30-8 EINECS: 203-856-5	glutaral Acute Tox. 3, H301; Acute Tox. 2, H330 Resp. Sens. 1, H334 Skin Corr. 1B, H314 Aquatic Acute 1, H400; Aquatic Chronic 2, H411 Skin Sens. 1A, H317; STOT SE 3, H335 EUH071 Specific concentration limit: STOT SE 3; H335: C ≥ 0.5 %	5 - 10%
CAS: 110-15-6 EINECS: 203-740-4	succinic acid Eye Irrit. 2, H319	0.5 - 2%

· **SVHC**

111-30-8	glutaral

· **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**
Personal protection for the First Aider.
Instantly remove any clothing soiled by the product.

· **After inhalation**
Take affected persons into the open air and position comfortably
Seek medical treatment in case of complaints.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 minutes).
Remove contact lenses, if present and easy to do.
Protect uninjured eye.
Call a doctor immediately.

· **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; instantly call for medical help.

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· **4.2 Most important symptoms and effects, both acute and delayed**
No known symptoms to date.
· **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, extinguishing powder or water jet. Fight larger fires with water spray jet or alcohol-resistant foam.
Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
· **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Sulphur oxides (SOx)
Carbon monoxide
· **5.3 Advice for firefighters**

· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:
Put on breathing apparatus.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation.
· **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.

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See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Avoid contact with the eyes and skin.
· **Information about protection against explosions and fires:**
No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:**
Store container in a well ventilated position.
· **Information about storage in one common storage facility:**
Keep away from foodstuffs, beverages and food.
· **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
Store in a cool place.
· **Recommended storage temperature:** 5-25 °C
· **Storage class** 8 B
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
111-30-8 glutaral	
OEL (Ireland)	Short-term value: 0.2 mg/m³, 0.05 ppm Sens

· **Additional information:**
The lists that were valid during the compilation 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 should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.

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Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke while working.
Avoid contact with the eyes and skin.

· **Breathing equipment:**
Use breathing protection in case of insufficient ventilation.
Filter A/P2.

· **Hand protection**
Protective gloves.
The protective gloves to be used must comply with the specifications of the (EU) 2016/425 and the resultant standard EN 374.
This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.
Only use chemical-protective gloves with CE-labelling of category III.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

	Thickness (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480

Avoid natural rubber gloves.

· **As protection from splashes gloves made of the following materials are suitable:**
Synthetic gloves
Value for permeation: Level ≥ 3 (60 min)

· **Eye/face protection** Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Fluid
· **Colour:**	Colourless
· **Odour:**	Pungent
· **Odour threshold:**	Not determined.

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· **Melting point/freezing point:**	< 5 °C
· **Boiling point or initial boiling point and boiling range**	> 100 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable
· **Decomposition temperature:**	Not determined.
· **pH at 25 °C**	6.8
· **Viscosity:**	
· **Kinematic viscosity**	Not determined
· **dynamic:**	Not determined
· **Solubility**	
· **Water:**	miscible
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density and/or relative density**	
· **Density at 20 °C**	1,160 g/cm³
· **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.**	
· **Self-inflammability:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive.
· **Solvent content:**	
· **Organic solvents:**	0.0 %
· **Water:**	~ 70 %
· **Change in condition**	
· **Softening point/range**	
· **Oxidising properties**	None
· **Evaporation rate**	Not determined.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void

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· **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
· **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 according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known
· **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 decomposition products known

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Harmful if swallowed or if inhaled.
· **Skin corrosion/irritation** Causes severe skin burns and eye damage.
· **Serious eye damage/irritation** Causes serious eye damage.
· **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.

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· **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.
· **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.
· **Additional toxicological information:**
This statement was deduced from the properties of the single components.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Not determined

· **Behaviour in environmental systems:** Not determined
· **12.3 Bioaccumulative potential** Not determined
· **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**

· **Ecotoxical effects:** No further relevant information available.
· **Remark:** Harmful to fish

· **Behaviour in sewage processing plants:** Not determined

· **Additional ecological information:**

· **General notes:**
This statement was deduced from the properties of the single components.
The product contains materials that are harmful to the environment.
Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

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Danger to drinking water if even small quantities leak into soil.
At present there are no ecotoxicological assessments.
Harmful to aquatic organisms
The product does not contain organically bounded halogens (AOX-free).

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated under adherence to official regulations.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

· **European waste catalogue**	
16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
HP6	Acute Toxicity
HP8	Corrosive
HP14	Ecotoxic

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
EAK-No. 15 01 10
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR/RID, IMDG, IATA** UN1760

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· **14.2 UN proper shipping name**	
· **ADR/RID, IMDG, IATA**	CORROSIVE LIQUID, N.O.S. (glutaral)
· **14.3 Transport hazard class(es)**	
· **ADR/RID, IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4 Packing group**	
· **ADR/RID, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Corrosive substances.
· **Kemler Number:**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	none
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR/RID**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Remarks:**	"Limited quantity" according to chapter 3.4 ADR
· **IMDG**	
· **Remarks:**	"Limited quantity" according to chapter 3.4 IMDG
· **IATA**	
· **Remarks:**	Packing Instruction PAX 852, CAO 856

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· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARAL), 8, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS05 GHS07 GHS08

· **Signal word** Danger
· **Hazard statements**
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P280 Wear protective gloves / eye protection.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position 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.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **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.

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· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **National regulations**

· **Decree to be applied in case of technical fault:**

Class	Share in %
I	9.6

· **Water hazard class:**
Water danger class 3 (Self-assessment): highly water-endangering.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
111-30-8	glutaral

· **15.2 Chemical safety assessment:**
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

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H411 Toxic to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.

· **Recommended restriction of use** No public product, only for commercial use
· **Version number of previous version:** 12.2
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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)
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
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

· **Sources**
applicable EEC directives:
- 1907/2006
- 1272/2008
Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance (GESTIS-database on hazardous substances), http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp

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

· **1.1 Product identifier**

· **Trade name: Uniroll-D Teil 3**

· **Article number:** 10510-C
· **UFI:** 8S00-Q0YN-G00R-SJ8P

· **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**
Photochemicals
Developer for X-ray films
Reserved for industrial and professional use.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Calbe Chemie GmbH
Stadtfeld 31
D-39240 Calbe
Tel.: +49 (0)39291 425-0
Fax: +49 (0)39291 425-25
e-mail: info@calbe-chemie.de
www.calbe-chemie.de

· **Informing department:**
Tel.: +49 (0)39291 42515
E-Mail: rs@calbe-chemie.de
· **1.4 Emergency telephone number:**
Tel.: +49 (0) 700-24112112 (CAL)
Tel.: +1 872 5888271(CAL)

SECTION 2: Hazards identification

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


GHS07

Skin Irrit. 2	H315 Causes skin irritation.
Eye Irrit. 2	H319 Causes serious eye irritation.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

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· **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 statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**

P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/ national/international regulations.

· **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:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 64-19-7 EINECS: 200-580-7	acetic acid Flam. Liq. 3, H226 Skin Corr. 1A, H314 Acute Tox. 4, H312 Specific concentration limits: Skin Corr. 1A; H314: C ≥90 % Skin Corr. 1B; H314: 25 % ≤ C < 90 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	15 - 20%

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CAS: 107-98-2 EINECS: 203-539-1	1-methoxypropan-2-ol Flam. Liq. 3, H226 STOT SE 3, H336	10 - 15%
CAS: 92-43-3 EINECS: 202-155-1	1-phenyl-3-pyrazolidone Aquatic Chronic 2, H411 Acute Tox. 4, H302	5 - 10%

· **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**
Personal protection for the First Aider.
Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 minutes).
Remove contact lenses, if present and easy to do.
Protect uninjured eye.
Call a doctor immediately.

· **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; instantly call for medical help.
· **4.2 Most important symptoms and effects, both acute and delayed**
No known symptoms to date.
· **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, extinguishing powder or water jet. Fight larger fires with water spray jet or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
· **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire

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Carbon monoxide

· **5.3 Advice for firefighters**

· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:
Put on breathing apparatus.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
· **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Avoid contact with the eyes and skin.
· **Information about protection against explosions and fires:**
No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
Store in a cool place.
· **Recommended storage temperature:** 5-25 °C
· **Storage class** 8 A

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· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
64-19-7 acetic acid	
OEL (Ireland)	Short-term value: 50 mg/m³, 20 ppm Long-term value: 25 mg/m³, 10 ppm IOELV
IOELV (European Union)	Short-term value: 50 mg/m³, 20 ppm Long-term value: 25 mg/m³, 10 ppm
107-98-2 1-methoxypropan-2-ol	
OEL (Ireland)	Short-term value: 568 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm IOELV
IOELV (European Union)	Short-term value: 568 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Skin

· **Additional information:**
The lists that were valid during the compilation 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 should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.
Do not eat, drink or smoke while working.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

· **Breathing equipment:**
Use a breathing protection if high concentrations are present.
Filter AX.

· **Hand protection**
Protective gloves.
The protective gloves to be used must comply with the specifications of the (EU) 2016/425 and the resultant standard EN 374.
This recommendation applies only to the product stated in the Safety Data Sheet and

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supplied by us as well as to the purpose specified by us.
Only use chemical-protective gloves with CE-labelling of category III.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Thickness (mm)	Breakthrough time (min)	
Chloroprene rubber	0,5	> 480
Nitril rubber	0,35	> 480
Butyl rubber	0,5	> 480
Fluorocarbon rubber	0,4	> 480
PVC	0,5	> 480

Avoid natural rubber gloves.

· **As protection from splashes gloves made of the following materials are suitable:**
Synthetic gloves
Value for permeation: Level ≥ 3 (60 min)

· **Eye/face protection** Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Fluid
· **Colour:**	Light yellow
· **Odour:**	Acidic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	< 5 °C
· **Boiling point or initial boiling point and boiling range**	> 100 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	1.9 Vol %
· **Upper:**	17.0 Vol %
· **Flash point:**	62 °C
· **Auto-ignition temperature:**	270 °C
· **Decomposition temperature:**	Not determined.
· **pH at 25 °C**	3.7
· **Viscosity:**	
· **Kinematic viscosity**	Not determined
· **dynamic:**	Not determined

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· **Solubility**	
· **Water:**	miscible
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density and/or relative density**	
· **Density at 20 °C**	1.095 g/cm³
· **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.**	
· **Self-inflammability:**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive.
· **Solvent content:**	
· **Organic solvents:**	31.4 %
· **Water:**	~ 10 %
· **Change in condition**	
· **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
· **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

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· **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 according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known
· **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 decomposition products known

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.
· **Skin corrosion/irritation** Causes skin irritation.
· **Serious eye damage/irritation** Causes serious eye irritation.
· **Respiratory or skin sensitisation**
Based on available data, the classification criteria are not met.
· **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.
· **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.
· **Additional toxicological information:**
This statement was deduced from the properties of the single components.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Not determined

· **Behaviour in environmental systems:** Not determined
· **12.3 Bioaccumulative potential** Not determined
· **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**

· **Ecotoxical effects:** No further relevant information available.
· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**
This statement was deduced from the properties of the single components.
Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.
Do not allow product to reach ground water, water bodies or sewage system.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
At present there are no ecotoxicological assessments.
Harmful to aquatic organisms
The product does not contain organically bounded halogens (AOX-free).

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated under adherence to official regulations.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

· **European waste catalogue**	
16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST

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16 05 00	gases in pressure containers and discarded chemicals
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
HP8	Corrosive
HP14	Ecotoxic

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
EAK-No. 15 01 10
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR/RID, IMDG, IATA** UN2790

· **14.2 UN proper shipping name**
· **ADR/RID, IMDG, IATA** ACETIC ACID SOLUTION

· **14.3 Transport hazard class(es)**

· **ADR/RID, IMDG, IATA**

· **Class** 8 Corrosive substances.
· **Label** 8

· **14.4 Packing group**
· **ADR/RID, IMDG, IATA** III

· **14.5 Environmental hazards:**
· **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Corrosive substances.
· **Kemler Number:** 80
· **EMS Number:** F-A,S-B

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· **Segregation groups**	(SGG1) Acids
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR/RID**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **Remarks:**	"Limited quantity" according to chapter 3.4 ADR
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Remarks:**	"Limited quantity" according to chapter 3.4 IMDG
· **IATA**	
· **Remarks:**	PAX 852 CAO 856
· **UN "Model Regulation":**	UN 2790 ACETIC ACID SOLUTION, 8, III

SECTION 15: Regulatory information

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

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· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**

P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/ national/international regulations.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **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.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **National regulations**

· **Decree to be applied in case of technical fault:**

Class	Share in %
II	18.8
NK	12.6

· **Water hazard class:** Water hazard class 2 (Self-assessment): water-endangering.

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· **15.2 Chemical safety assessment:**
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they 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.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

· **Recommended restriction of use** No public product, only for commercial use
· **Version number of previous version:** 12.2
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
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

· **Sources**
applicable EEC directives:
- 1907/2006
- 1272/2008
Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance (GESTIS-database on hazardous substances), http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp