

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Staining solution

Revision date: 14.02.2020

Product code: 11439_collect

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Staining solution

Further trade names

This MSDS covers the following products:

- - REF 11439.xxxxx - Papanicolaou Lösung 3a Polychrom EA 31, Farbe blaugrün
- - REF 13044.xxxxx - Eosin gelblich 0,5 %, in Ethanol 70 %,

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

Use as laboratory reagent.

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

| | | |
|---------------|---------------------------|-----------------------------------|
| Company name: | MORPHISTO GmbH | |
| Street: | Weismüllerstr. 45 | |
| Place: | D-60314 Frankfurt am Main | |
| Telephone: | +49 (0) 69 / 400 3019-60 | Telefax: +49 (0) 69 / 400 3019-64 |
| e-mail: | info@morphisto.de | |
| Internet: | http://www.morphisto.de | |

1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

2.2. Label elements**Regulation (EC) No. 1272/2008****Signal word:** Danger**Pictograms:****Hazard statements**

| | |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |

Precautionary statements

| | |
|-----------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |

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P403+P235

Store in a well-ventilated place. Keep cool.

P501

Dispose of contents/container to local/regional/national/international regulations.

2.3. Other hazards

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

| CAS No | Chemical name | | | Quantity |
|----------|---------------------------------------|--------------|------------------|-------------|
| | EC No | Index No | REACH No | |
| | GHS Classification | | | |
| 64-17-5 | ethanol, ethyl alcohol | | | 90 - < 95 % |
| | 200-578-6 | 603-002-00-5 | 01-2119457610-43 | |
| | Flam. Liq. 2, Eye Irrit. 2; H225 H319 | | | |
| 107-21-1 | ethanediol, ethylene glycol | | | 1 - < 5 % |
| | 203-473-3 | 603-027-00-1 | 01-2119456816-28 | |
| | Acute Tox. 4, STOT RE 2; H302 H373 | | | |

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

@1501.B015819 If unconscious place in recovery position and seek medical advice. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After contact with skin

@0403.B004101 In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Acute effects: Mucous membrane irritation after eye contact or inhalation.

Delayed effects: Impairment of inhibitory functions of the central nervous system, skin redness, nausea after ingestion of large amounts.

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

Treat symptomatically.

Percutaneously absorbed and inhaled substance causes next to irritation of affected mucous membranes only an indicated impairment of the inhibitory functions of the central nervous system, clinically recognizable as the beginning of a euphoric stage. At the same time face and skin redness is caused by dilation of peripheral blood vessels in the body.

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SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam. Atomized water.**Unsuitable extinguishing media**

High power water jet.

5.2. Special hazards arising from the substance or mixtureCan be released in case of fire: Carbon monoxide (CO). Sulfur oxides. Carbon dioxide (CO₂).**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Ventilate affected area.

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

Special danger of slipping by leaking/spilling product.

Wear personal protection equipment. (refer to chapter 8)

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Ventilate affected area.

Treat the recovered material as prescribed in the section on waste disposal.

Clear contaminated areas thoroughly.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation as well as local exhaust at critical locations.

@1501.B015720 Avoid contact with skin, eyes and clothes.

Wear suitable protective clothing. (See section 8.) Use extractor hood (laboratory).

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Flammable vapours can accumulate in head space of closed systems. @1501.B015511 Heating causes rise in pressure with risk of bursting.

Further information on handling

General protection and hygiene measures: refer to chapter 8

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep/Store only in original container. Keep container tightly closed in a cool, well-ventilated place. Protect against direct sunlight.

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Ensure adequate ventilation of the storage area. Concentrated vapours are heavier than air.
 Suitable material for Container: Stainless steel. (1.4301 (V2), 1.4401 (V4)); iron. solvent resistant plastics.
 Unsuitable materials for Container: Aluminium. Rubber. various plastics.

Hints on joint storage

Do not store together with: Gas. Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances or mixtures which, in contact with water, emit flammable gases. Oxidizing liquids. Oxidizing solids. ammonium nitrate. Self-reactive substances and mixtures. Organic peroxides. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.
 Protect against: UV-radiation/sunlight. heat. Humidity frost.
 storage temperature: 15-25°C
 Store small packages in a suitable, robust cabinet.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|----------|-----------------------------------|------|-------------------|-----------|---------------|--------|
| 78-93-3 | Butan-2-one (methyl ethyl ketone) | 200 | 600 | | TWA (8 h) | WEL |
| | | 300 | 899 | | STEL (15 min) | WEL |
| 107-21-1 | Ethane-1,2-diol, vapour | 20 | 52 | | TWA (8 h) | WEL |
| | | 40 | 104 | | STEL (15 min) | WEL |
| 64-17-5 | Ethanol | 1000 | 1920 | | TWA (8 h) | WEL |
| 67-63-0 | Propan-2-ol | 400 | 999 | | TWA (8 h) | WEL |
| | | 500 | 1250 | | STEL (15 min) | WEL |

Biological Monitoring Guidance Values (EH40)

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---------|-------------|-------------|-----------|---------------|---------------|
| 78-93-3 | Butan-2-one | butan-2-one | 70 µmol/L | urine | Post shift |

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DNEL/DMEL values

| CAS No | Substance | | | |
|--------------------------|---|----------------|----------|------------------|
| DNEL type | | Exposure route | Effect | Value |
| 64-17-5 | ethanol, ethyl alcohol | | | |
| Worker DNEL, acute | | inhalation | local | 1900 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 343 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | systemic | 950 mg/m³ |
| Consumer DNEL, acute | | inhalation | local | 950 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 206 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 114 mg/m³ |
| Consumer DNEL, long-term | | oral | systemic | 87 mg/kg bw/day |
| 107-21-1 | ethanediol, ethylene glycol | | | |
| Worker DNEL, long-term | | dermal | systemic | 106 mg/kg bw/day |
| Worker DNEL, long-term | | inhalation | local | 35 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 53 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | local | 7 mg/m³ |
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol | | | |
| Worker DNEL, long-term | | inhalation | systemic | 500 mg/m³ |
| Consumer DNEL, long-term | | inhalation | systemic | 89 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 888 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 26 mg/kg bw/day |
| Consumer DNEL, long-term | | dermal | systemic | 319 mg/kg bw/day |

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PNEC values

| CAS No | Substance | |
|--|---|------------|
| Environmental compartment | | Value |
| 64-17-5 | ethanol, ethyl alcohol | |
| Freshwater | | 0,96 mg/l |
| Freshwater (intermittent releases) | | 2,75 mg/l |
| Marine water | | 0,79 mg/l |
| Marine water (intermittent releases) | | 2,75 mg/l |
| Freshwater sediment | | 3,6 mg/kg |
| Marine sediment | | 2,9 mg/kg |
| Secondary poisoning | | 0,72 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 580 mg/l |
| Soil | | 0,63 mg/kg |
| 107-21-1 | ethanediol, ethylene glycol | |
| Freshwater | | 10 mg/l |
| Freshwater (intermittent releases) | | 10 mg/l |
| Marine water | | 1 mg/l |
| Freshwater sediment | | 37 mg/kg |
| Marine sediment | | 3,7 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 199,5 mg/l |
| Soil | | 1,53 mg/kg |
| 67-63-0 | propan-2-ol; isopropyl alcohol; isopropanol | |
| Freshwater | | 140,9 mg/l |
| Marine water | | 140,9 mg/l |
| Freshwater sediment | | 552 mg/kg |
| Marine sediment | | 552 mg/kg |
| Secondary poisoning | | 160 mg/kg |
| Soil | | 28 mg/kg |

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.
 Use extractor hood (laboratory).

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work. Take off contaminated clothing. Protect skin by using skin protective cream.

Eye/face protection

Tightly sealed safety glasses. DIN EN 166

Hand protection

In case of prolonged or frequently repeated skin contact:
 Tested protective gloves are to be worn:

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Suitable material:

Butyl rubber. (0,7 mm, Breakthrough time ≥ 480 min, penetration time (maximum wearing period): 160 min):
 NBR (Nitrile rubber). (0,4 mm, Breakthrough time ≥ 120 min, penetration time (maximum wearing period): 40 min)

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Protective clothing. (fire retardant.)

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

exceeding exposure limit values.

aerosol or mist generation.

Suitable respiratory protective equipment: Combination filtering device (EN 14387) Typ: A / P1-3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-----------------|----------------|
| Physical state: | liquid |
| Colour: | colourless |
| Odour: | Ethanol. |
| pH-Value: | not determined |

Changes in the physical state

| | |
|--|-----------------|
| Melting point: | not determined |
| Initial boiling point and boiling range: | 78 (Ethanol) °C |
| Sublimation point: | not determined |
| Softening point: | not determined |
| Pour point: | not determined |
| Flash point: | 12 (Ethanol) °C |

Explosive properties

not determined

| | |
|-------------------------|----------------------|
| Lower explosion limits: | 3,3 (Ethanol) vol. % |
| Upper explosion limits: | 19 (Ethanol) vol. % |
| Ignition temperature: | 400 (Ethanol) °C |

Auto-ignition temperature

| | |
|----------------------------|----------------|
| Gas: | not determined |
| Decomposition temperature: | not determined |

Oxidizing properties

not determined

| | |
|--------------------------------|------------------|
| Vapour pressure: (at 20 °C) | 59 (Ethanol) hPa |
|--------------------------------|------------------|

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| | |
|-------------------------------------|---------------------|
| Vapour pressure: (at 50 °C) | 280 (Ethanol) hPa |
| Density (at 20 °C): | not determined |
| Water solubility: | completely miscible |
| Solubility in other solvents | |
| not determined | |
| Viscosity / dynamic: | not determined |
| Viscosity / kinematic: | not determined |
| Flow time: | not determined |
| Vapour density: | not determined |
| Evaporation rate: | not determined |
| Solvent separation test: | not determined |
| Solvent content: | not determined |

9.2. Other information

| | |
|----------------|----------------|
| Solid content: | not determined |
|----------------|----------------|

SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Explosion risk in contact with: Oxidizing agents, strong. nitric acid. Hydrogenium peroxide.
Exothermic reactions with: Alkali metals. Alkaline earth metals. Reducing agents, strong.

10.4. Conditions to avoid

Keep away from heat. Protect against direct sunlight. Protect from moisture.
In use may form flammable/explosive vapour-air mixture.
Heating causes rise in pressure with risk of bursting. Recommended storage temperature: < 40 °C

10.5. Incompatible materials

Strong acid. Oxidizing agents. Alkali metals. Alkaline earth metals. Peroxides. phosphorus oxides. Nitrogen oxides (NOx). Hydrogenium peroxide. Nitric acid. hydrochloric acid. Sulfuric acid. Perchlorates. Chromium oxides. Acid chlorides.

10.6. Hazardous decomposition productsCan be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO₂).**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

Adsorption.

Ethanol has a low molecular weight and has a good water and fat solubility. Therefore it can be adsorbed well in the entire gastrointestinal tract, lungs and the skin. After swallowing approximately 90% is taken up via the gastrointestinal tract. When inhaled, this value is 61%. Because of the rapid evaporation of ethanol the dermal adsorption is very limited; theoretically 21% can be accommodated, however, the absorption rate of uncovered skin is only 1 to 2%.

Distribution:

Regardless of the exposure pathway ethanol is distributed via the bloodstream throughout the body,

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comparable to the distribution of water. Highly perfused organs (brain, lung and liver) are passed quickly. An equal distribution between tissue and blood is reached after 1 to 1.5 h.

metabolism:

Even before the absorption a small proportion of ethanol is enzymatically metabolized in the stomach (alcohol dehydrogenase). After absorption ethanol is preferably metabolized in the liver (92-95%) and partly in the kidneys and lungs. Metabolism occurs usually in three steps: 1. oxidation of ethanol to acetaldehyde; 2. oxidation of acetaldehyde to acetate; 3. oxidation of acetate to carbon dioxide and water

elimination:

The vast majority of ethanol is eliminated by metabolism, the excretion via breath, urine and sweat plays a minor role. The maximum elimination of ethanol is estimated on the 127 mg / kgbw / h.

Acute toxicity

Based on available data, the classification criteria are not met.

| CAS No | Chemical name | | | | |
|----------|-----------------------------|---------------|---------|--------|--------------|
| | Exposure route | Dose | Species | Source | Method |
| 64-17-5 | ethanol, ethyl alcohol | | | | |
| | oral | LD50 mg/kg | >5000 | Rat | ECHA Dossier |
| | inhalation (4 h) vapour | LC50 mg/l | 124,7 | Rat | ECHA Dossier |
| 107-21-1 | ethanediol, ethylene glycol | | | | |
| | oral | LD50 mg/kg | 7712 | Rat. | ECHA Dossier |
| | dermal | LD50 mg/kg | >5000 | Rabbit | RTECS |

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Irritant effect on the skin: slightly irritant but not relevant for classification.

Ethanol.: Specific concentration limit (SCL): Eye Irrit. 2 > 50%

Sensitising effects

Based on available data, the classification criteria are not met.

The product is: not sensitising. The statement is derived from the properties of the components.

Carcinogenic/mutagenic/toxic effects for reproduction

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Based on available data, the classification criteria are not met.

Ethanol. (CAS-No.: 64-17-5):

In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist.

Reproductive toxicity: ; Exposure time: 18 weeks; Species: CD-1 Mouse.

Method: OECD Guideline 416; Result: NOAEL = 20700 mg/kg/day

Developmental toxicity/teratogenicity:

Exposure time: 19d; Species: Sprague-Dawley Rat.

Method: OECD Guideline 414; Result: NOAEL = 16000 ppm (maternal toxicity)

Result: NOAEL >= 20000 ppm (teratogenicity); Literature information: ECHA Dossier

ethanediol; ethylene glycol:

In-vitro mutagenicity:

Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay) 1997

Result: negative. ; Literature information: ECHA dossier

Carcinogenicity:

Method: (oral.)

Species: Mouse. ; Exposure duration: 2 years

Result: NOAEL = 1500 mg/kg; Literature information: ECHA Dossier

Developmental toxicity/teratogenicity:

Method:

Species: Mouse. ;Exposure duration: 20 d.

Results: NOAEC = 2500 mg/m3; Literature information: ECHA Dossier

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.

Ethanol. (CAS-No.: 64-17-5):

Subchronic oral toxicity

Exposure time: 90d; Species: Sprague-Dawley Rat.

Method: OECD Guideline 408

Result: NOAEL = 1280 mg/kg; Literature information: ECHA Dossier

ethanediol; ethylene glycol:

Subacute oral toxicity:

Method: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Species: Dog.; Exposure duration: 28 d.

Results: NOAEL = 2200 mg/kg(bw)/day ; literature information: ECHA Dossier

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

@1718.B017281

Practical experience**Observations relevant to classification**

not determined

Other observations

Depending on the ingested quantity the following symptoms can be induced: a reduction of inhibitions, euphoria but also dysphoria, aggressiveness, impaired motoric skills, impaired responsiveness, blurred vision and fatigue.

SECTION 12: Ecological information**12.1. Toxicity**

Ethanol. (CAS-No.: 64-17-5):

Acute earthworm toxicity: LC50 (48h) = <1mg/cm2 (Eisenia fetida, non-guideline study)

Acute plant toxicity: EC50 (6d) = 11800 mg/l (Allium cepa, non-guideline study)

Sediment organisms: LC50 (18h) = 8200 mg/l (Hyallela sp, non-guideline study)

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| CAS No | Chemical name | | | | | |
|----------|-----------------------------|---------------|-----------|---------|---------------------|--------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 64-17-5 | ethanol, ethyl alcohol | | | | | |
| | Acute fish toxicity | LC50 mg/l | 14200 | 96 h | Pimephales promelas | ECHA Dossier |
| | Acute algae toxicity | ErC50 | 275 mg/l | 72 h | Chlorella vulgaris | ECHA Dossier |
| | Acute crustacea toxicity | EC50 mg/l | 5012 | 48 h | Ceriodaphnia dubia | ECHA Dossier |
| | Crustacea toxicity | NOEC | 9,6 mg/l | 9 d | Daphnia magna | ECHA Dossier |
| 107-21-1 | ethanediol, ethylene glycol | | | | | |
| | Acute fish toxicity | LC50 mg/l | 72860 | 96 h | Pimephales promelas | ECHA Dossier |
| | Acute crustacea toxicity | EC50 mg/l | >100 | 48 h | Daphnia magna | ECHA Dossier |
| | Acute bacteria toxicity | (>10000 mg/l) | | | Pseudomonas putida | ECHA Dossier |

12.2. Persistence and degradability

Ethanol. (CAS-No.: 64-17-5):

Chemical Oxygen Demand (COD): CSB = 1900 mg/g

Biochemical oxygen demand (BOD): BSB5 = 1000 mg/g

 Abiotic degradation in water: Hydrolysis $t_{1/2}$ (20°C, pH 7) = >1 - <36 a.

 Abiotic degradation in Air $t_{1/2}$ (Air.) = 38 d; $t_{1/2}$ (Air. 100 ppm NO₂) = 11,5 h

| CAS No | Chemical name | | | |
|----------|---|-------|----|--------------|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 64-17-5 | ethanol, ethyl alcohol | | | |
| | other guideline | 84% | 20 | ECHA Dossier |
| | Biodegradable. | | | |
| 107-21-1 | ethanediol, ethylene glycol | | | |
| | OECD 301A / ISO 7827 / EEC 92/69 annex V, C.4-A | 100% | 28 | ECHA Dossier |
| | Easily biodegradable (concerning to the criteria of the OECD) | | | |

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|----------|-----------------------------|---------|
| 64-17-5 | ethanol, ethyl alcohol | -0,31 |
| 107-21-1 | ethanediol, ethylene glycol | -1,4 |

12.4. Mobility in soil

Ethanol. (CAS-No.: 64-17-5):

 Volatility Henry constant: $3,3 \cdot 10^{-6}$ atm. m³/mol; dimension less $1,28 \cdot 10^{-4}$ (Calculation method.)

Distribution: Calculation according to: Mackay, EPIWIN: Air. 45,0%; Water. 33,1%; soil: 13,7%; sediment: 0,1%

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

@1718.B017281

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Classification code: F1
 Special Provisions: 144 601
 Limited quantity: 1 L
 Excepted quantity: E2
 Transport category: 2
 Hazard No: 33
 Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number: UN 1170
14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3

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| | |
|----------------------|---------|
| Classification code: | F1 |
| Special Provisions: | 144 601 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |

Marine transport (IMDG)

| | |
|--|---|
| 14.1. UN number: | UN 1170 |
| 14.2. UN proper shipping name: | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |



| | |
|---------------------|----------|
| Marine pollutant: | NO |
| Special Provisions: | 144 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| EmS: | F-E, S-D |

Air transport (ICAO-TI/IATA-DGR)

| | |
|--|---|
| 14.1. UN number: | UN 1170 |
| 14.2. UN proper shipping name: | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| 14.3. Transport hazard class(es): | 3 |
| 14.4. Packing group: | II |
| Hazard label: | 3 |



| | |
|--|-------------|
| Special Provisions: | A3 A58 A180 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y341 |
| Excepted quantity: | E2 |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 364 |
| IATA-max. quantity - Cargo: | 60 L |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Refer to section 6-8

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not relevant

SECTION 15: Regulatory information

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

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EU regulatory information

2010/75/EU (VOC): =< 100 % (calculated)
2004/42/EC (VOC): =< 780 g/l (calculated)
Information according to 2012/18/EU P5c FLAMMABLE LIQUIDS
(SEVESO III):

Additional information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].
REACH 1907/2006 Appendix XVII, No (mixture): 3, 40

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile
work protection guideline' (94/33/EC).
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
ethanol, ethyl alcohol
ethanediol, ethylene glycol
propan-2-ol; isopropyl alcohol; isopropanol

SECTION 16: Other information**Changes**

28.10.2015 Rev.1.0 Neuerstellung
13.02.2017 Rev 1,1 Changes in chapter: 1-16

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
AGW: Arbeitsplatzgrenzwert
AVV: Abfallverzeichnisverordnung
CAS Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NLP: No-Longer Polymers

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N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS Technische Regeln fuer Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

VwVwS: Verwaltungsvorschrift wassergefahrdender Stoffe

WGK: Wassergefahrdungsklasse

Relevant H and EUH statements (number and full text)

| | |
|--------|---|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H319 | Causes serious eye irritation. |
| H373 | May cause damage to organs (kidneys) through prolonged or repeated exposure if swallowed. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

Further Information

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

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)