

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Staining solution alcoholic

Revision date: 19.06.2020

Product code: 10369_collect

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

Staining solution alcoholic

Further trade names

This MSDS covers the following products in all container sizes:

- REF 10369.xxxxx – Safron du Gatinais, Farbe orange
- REF 11125.xxxxx – Luxol Fast Blue Lösung, Farbe blau
- REF 11442.xxxxx – Papanicolaou Lösung 3b Polychrom EA 50, Farbe blaugrün
- REF 11445.xxxxx – Papanicolaou Lösung 3c Polychrom EA 65, Farbe rot
- REF 11448.xxxxx – Papanicolaou Lösung 3d Polychrom EA 65, Farbe blaugrün
- REF 11433.xxxxx – Papanicolaou Lösung OG6 (Pap 2a), Farbe orange-rot
- REF 11436.xxxxx – Papanicolaou Lösung Orange II (Pap 2b), Farbe orange-rot
- REF 11524.xxxxx – Alcianblau 1 %, alkoholisch
- REF 11745.xxxxx – Safranin, alkoholisch
- REF 11957.xxxxx – Papanicolaou Lösung 2a ('S') – Orange G, Farbe orange-rot
- REF 12012.xxxxx – Papanicolaou Lösung 2b ('S') – Orange II, Farbe orange-rot
- REF 12298.xxxxx – Rhodamin-Lösung für die Fettfärbung, Farbe rosa-rot
- REF 12315.xxxxx – Rhodanin-Lösung für Kupfernachweis, Farbe orange
- REF 12480.xxxxx – Orceinlösung alkoholisch, Farbe rot
- REF 12554.xxxxx – Mucikarmin Stammlösung (nach SOUTHGATE)
- REF 12497.xxxxx – Toluidinblau 1%ig, alkoholisch, Farbe blau
- REF 13522.xxxxx – Mucikarmin Stammlösung (Original nach Mayer)
- REF 13656.xxxxx – Indikatorlösung pH 3,8 - 5,4 (Bromkresolgrün)
- REF 13812.xxxxx – Oelrot O, alkoholisch
- REF 13733.xxxxx – Eosin gelblich ~ 2% in Ethanol 70%
- REF 13799.xxxxx – Indikatorlösung pH 5,2 - 6,8 (Bromkresolpurpur)
- REF 14853.xxxxx – Alkalische Kochsalzlösung
- REF 14297.xxxxx – Phenolphthalein Indikatorlösung
- REF 15817.xxxxx – Orceinlösung, alkoholisch mit Salzsäure
- REF 15845.xxxxx – Sudan III 0,2 %, alkoholisch
- REF 15448.xxxxx – Sudan IV 2,5%ig, alkoholisch
- REF 15718.xxxxx – Phenolphthalein zur Karbonatisierungsprüfung
- REF 16394.xxxxx – Sudan III 1 %, alkoholisch
- REF 18262.xxxxx – Sudan III Stammlösung
- REF 18147.xxxxx – Sudanschwarz 0,1%, alkoholisch
- REF 12470.xxxxx – Methylenblau, alkoholisch
- REF 14971.xxxxx – Methylenblau, alkoholisch für die Parasitologie
- REF 17515.xxxxx – Bromthymolblaulösung 0,04 %, alkoholisch

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

Use as laboratory reagent. Intended for scientific research and development.

Uses advised against

Any non-intended use.

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
e-mail: info@morphisto.de
Internet: http://www.morphisto.de

Telefax: +49 (0) 69 / 400 3019-64

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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.

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.

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****Chemical characterization**

Ethanol, dye

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
64-17-5	ethanol, ethyl alcohol			95 - <= 100 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
17927-65-0	Aluminium sulfate hydrate			1 - < 5 %
	Eye Dam. 1; H318			
78-93-3	butanone; ethyl methyl ketone			1 - < 5 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			1 - < 5 %
	200-661-7	603-117-00-0	01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			

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

Provide fresh air. 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

Take off contaminated clothing and wash it before reuse. Wash with plenty of water. 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.

SECTION 5: Firefighting measures
5.1. Extinguishing media

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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 mixture

Highly flammable. The formation of combustible vapours is possible at temperatures above: 7°C. Vapours are heavier than air and will spread at floor level. Can be released in case of fire: Carbon monoxide 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. Take action to prevent static discharges. 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

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.
Wear personal protection equipment. (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. 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.
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.

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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.ammonium nitrate. Self-reactive substances and mixtures. Organic peroxides. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Recommended storage temperature: 5-15°C
 Protect against: UV-radiation/sunlight. heat. Cold.

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
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

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
	Worker DNEL, acute	inhalation	local	1900 mg/m ³
	Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day
	Worker DNEL, long-term	inhalation	systemic	950 mg/m ³
	Consumer DNEL, acute	inhalation	local	950 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	114 mg/m ³
	Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
	Worker DNEL, long-term	inhalation	systemic	500 mg/m ³
	Consumer DNEL, long-term	inhalation	systemic	89 mg/m ³
	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	Value
Environmental compartment		
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
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.

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

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:

Suitable material:

Butyl rubber. (0,7 mm, Breakthrough time \geq 480 min, penetration time (maximum wearing period): 160 min):

NBR (Nitrile rubber). (0,4 mm, Breakthrough time \geq 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.

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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:

Insufficient ventilation.

exceeding exposure limit values

generation/formation of aerosols

Suitable respiratory protective equipment:

gas filtering equipment (EN 141). Type : A

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:	different	
Odour:	Ethanol.	
pH-Value:		not determined

Changes in the physical state

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

Explosive properties

Vapours of flammable solvents can accumulate in the gas phase of closed container, especially during heat treatment. Therefore keep away from fire and sources of ignition.

Lower explosion limits:	(Ethanol 100%) 3,3 vol. %
Upper explosion limits:	(Ethanol 100%) 19 vol. %
Ignition temperature:	~425 °C

Auto-ignition temperature

Gas:	not determined
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Oxidizing properties

none

Vapour pressure: (at 20 °C)	(Ethanol 100%) 59 hPa
Vapour pressure: (at 50 °C)	(Ethanol 100%) 280 hPa
Density (at 20 °C):	0,80 - 0,85 g/cm³
Water solubility:	completely miscible

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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

Stable under normal storage and handling conditions.

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

Materials to avoid: Alkali metals. Acid chlorides. Oxidizing agents.

10.6. Hazardous decomposition productsCan be released in case of fire: Carbon monoxide 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, 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.

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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
78-93-3	butanone; ethyl methyl ketone				
	dermal	LD50 mg/kg	>2000	Rabbit	ECHA Dossier
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 mg/kg	>5000	Rat	ECHA Dossier
	dermal	LD50 mg/kg	>5000	Rabbit	ECHA Dossier

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

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

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

Aspiration hazard

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

Specific effects in experiment on an animal

not known

Practical experience

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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: LC59 (18h) = 8200 mg/l (Hyallela sp, non-guideline study)

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
78-93-3	butanone; ethyl methyl ketone					
	Acute fish toxicity	LC50 mg/l	1656	96 h	Pimephales promelas	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	1982	72 h	Pseudokirchnerella subcapitata	ECHA Dossier
	Acute crustacea toxicity	EC50	308 mg/l	48 h	Daphnia magna	ECHA Dossier
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	9640	96 h	Pimephales promelas	ECHA Dossier OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	1800		Scenedesmus quadricauda	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>10000	48 h	Daphnia magna (24h)	ECHA Dossier OECD Guideline 202

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; 1/2 (Air. 100 ppm NO₂) = 11,5 h

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CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
64-17-5	ethanol, ethyl alcohol				
	other guideline	84%		20	ECHA Dossier
	Biodegradable.				
78-93-3	butanone; ethyl methyl ketone				
	@1203.B120931	98%		28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).				
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	EU Method C.5/ EU Method C.6	53%		5	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
78-93-3	butanone; ethyl methyl ketone	0,3
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05

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

No information available.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations
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

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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. Non-contaminated packages may be recycled.

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



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



Special Provisions: 144

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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****EU regulatory information**

2010/75/EU (VOC): =< 99% (calculated)
2004/42/EC (VOC): =< 780 g/l (calculated)
Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

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 juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D): 1 - slightly hazardous to water

Additional information**15.2. Chemical safety assessment**

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

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SECTION 16: Other information

Changes

Rev. 1.00; 05.11.2012, Initial release

Rev. 2.00; 19.06.2020, Revision

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

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 wassergefaehrdender Stoffe

WGK: Wassergefaehrdungsklasse

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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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.)