

Safety Data Sheet

according to UK REACH Regulation

Paragon Staining Solution for Mineralized Hard Tissue

Revision date: 28.08.2022

Product code: 13037.xxxxx

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

1.1. Product identifier

Paragon Staining Solution for Mineralized Hard Tissue

Further trade names

This MSDS covers this product in all container sizes.

UFI: G935-P17Q-2003-NX95

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

Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH GIZ	
Street:	Schumannstr. 142/144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
e-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
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

GB CLP Regulation

Flam. Liq. 2; H225

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:



Hazard statements

H225 Highly flammable liquid and vapour.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P403+P235 Store in a well-ventilated place. Keep cool.

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	
	Classification (GB CLP Regulation)			
64-17-5	ethanol, ethyl alcohol			20 - < 25 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
632-99-5	(4-(4-aminophenyl)(4-iminocyclohexa-2,5-dienylidene)methyl)-2-methylaniline hydrochloride			< 1 %
	211-189-6		01-2120761586-44	
	Carc. 2, Acute Tox. 4; H351 H302			
78-93-3	butanone; ethyl methyl ketone			< 1 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
64-17-5	200-578-6	ethanol, ethyl alcohol	20 - < 25 %
		inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100	
632-99-5	211-189-6	(4-(4-aminophenyl)(4-iminocyclohexa-2,5-dienylidene)methyl)-2-methylaniline hydrochloride	< 1 %
		oral: LD50 = 2884 mg/kg	
78-93-3	201-159-0	butanone; ethyl methyl ketone	< 1 %
		dermal: LD50 = >2000 mg/kg	

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride

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

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After contact with skin

Take off contaminated clothing and wash it before reuse. Take off immediately all contaminated clothing. 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. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. In all cases of doubt, or when symptoms persist, 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. 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.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder. Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam.

In case of major fire and large quantities: Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air. @1501.B015511

Vapours are heavier than air and will spread at floor level.

In case of fire may be liberated: Gases/vapours, irritant. Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. 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. 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****General advice**

Remove all sources of ignition. Provide adequate ventilation. Remove persons to safety. Remove all sources of ignition. Ventilate affected area.

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

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Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk. Do not allow to enter into surface water or drains. @1001.B010071! Cover drains. 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**For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Ventilate affected area.

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

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13 Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

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.)

Advice on protection against fire and explosion

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

Vapours can form explosive mixtures with air. 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.

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. The usual precautions for handling chemicals should be considered.

@1501.B015704

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

Further information on handling

General protection and hygiene measures: See section 8.

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

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed in a cool, well-ventilated place. Protect from direct sunlight.

Ensure adequate ventilation of the storage area.

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Make sure spills can be contained (e.g. sump pallets or kerbed areas).

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. 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. 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 as well as local exhaust at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Recommended eye protection brand: Tightly sealed safety glasses. (EN 166)

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of prolonged or frequently repeated skin contact: Wear suitable gloves.

Suitable material: Butyl rubber.

Thickness of glove material: 0,5 mm

Breakthrough time \geq 480 min. penetration time (maximum wearing period): ~ 120 min. (estimated)

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

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing. Wear fire resistant or flame

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retardant clothing.

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

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

exceeding exposure limit values

Insufficient ventilation.

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.

Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing .

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:	violet
Odour:	ethanolic
Melting point/freezing point:	not applicable
Boiling point or initial boiling point and boiling range:	78 (Ethanol) °C
Flammability	
Solid/liquid:	not applicable
Gas:	not applicable
Lower explosion limits:	2,5 (Ethanol) vol. %
Upper explosion limits:	15 (Ethanol) vol. %
Flash point:	10 - 13 (Ethanol) °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic: (at 20 °C)	not determined
Water solubility:	miscible.
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	56 - 60 (Ethanol) hPa
Density (at 20 °C):	0,790 - 0,793 (Ethanol) g/cm ³
Relative vapour density:	not determined

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

The product is not: Explosive. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

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Oxidizing properties
none.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined
Viscosity / dynamic: (at 20 °C)	1,2 (Ethanol) mPa·s
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable. No information available.

10.2. Chemical stability

@1002.B100142

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 sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Keep away from heat. Protect from 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 products

In case of fire may be liberated: Gas/vapours, irritant. Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

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
632-99-5	(4-(4-aminophenyl)(4-iminocyclohexa-2,5-dienylidene)methyl)-2-methylaniline hydrochloride				
	oral	LD50 mg/kg	2884	Rat	ECHA
78-93-3	butanone; ethyl methyl ketone				
	dermal	LD50 mg/kg	>2000	Rabbit	ECHA Dossier

Irritation and corrosivity

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:

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

butanone; ethyl methyl ketone:

In-vitro mutagenicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative; Literature information: ECHA Dossier; Reproductive toxicity: (read-across); Method: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study); Species: Rat.; Results: NOAEL = 1644 mg/kg; Literature information: ECHA Dossier; Developmental toxicity/teratogenicity: Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study); Species: Rat.; Results: NOAEC = 1002 ppm; Literature information: ECHA Dossier

propan-2-ol; isopropyl alcohol; isopropanol (CAS-No.: 67-63-0):

OECD Guideline 471 (Bacterial Reverse Mutation Assay) = negative., AllgK267153: ECHA Dossier; OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) = negative., Literature information: ECHA Dossier; No indications of human carcinogenicity exist., Literature information: ECHA Dossier; Reproductive toxicity: Method: OECD Guideline 415 (One-Generation Reproduction Toxicity Study); Species: Rat ; Result: NOAEL = 853 mg/kg; Literature information: ECHA Dossier; Developmental toxicity/teratogenicity: Method: (oral.) OECD Guideline 414 (Prenatal Developmental Toxicity Study); Species: Rabbit ; Result: NOAEL = 480 mg/kg; Literature information: ECHA Dossier

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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:

Subchronic oral toxicity:

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

Method: OECD Guideline 408; Result: NOAEL = 1280 mg/kg; Literature information: ECHA Dossier

butanone; ethyl methyl ketone:

subchronic inhalation toxicity: Method: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day); Species:

Rat. ; Exposure duration: 90 d. Result: NOAEC = 5014 ppm ; AllgK267153: ECHA Dossier

propan-2-ol; isopropyl alcohol; isopropanol (CAS-No.: 67-63-0):

Chronic inhalative toxicity (Rat): NOAEC = 5000 ppm (OECD 451), 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.

11.2. Information on other hazards
Other information

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
632-99-5	(4-(4-aminophenyl)(4-iminocyclohexa-2,5-dienylidene)methyl)-2-methylaniline hydrochloride					
	Fish toxicity	NOEC mg/l	3,12	60 d	Heteropneustes fossilis	ECHA
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

12.2. Persistence and degradability

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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

CAS No	Chemical name	Value	d	Source
	Method			
	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).			

12.3. Bioaccumulative potential

The product has not been tested.

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

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

@1718.B017281.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. 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

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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

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID 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 or ID 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 or ID 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

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Hazard label: 3

 Marine pollutant: YES
 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 or ID number: UN 1170
14.2. UN proper shipping name: 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: Yes



Danger releasing substance: C.I. Basic Violet 3 (CAS-No.: 548-62-9)

14.6. Special precautions for user

Warning: Combustible liquid. See section 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

2010/75/EU (VOC): 24,648 %

2004/42/EC (VOC): 24,928 %

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

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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): 2 - obviously hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

Rev. 2,0, 28.08.22; Individual safety data sheet based on 12898_collect

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 wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

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CLP: Classification, labelling and Packaging
 REACH: Registration, Evaluation and Authorization of Chemicals
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 UN: United Nations
 CAS: Chemical Abstracts Service
 DNEL: Derived No Effect Level
 DMEL: Derived Minimal Effect Level
 PNEC: Predicted No Effect Concentration
 ATE: Acute toxicity estimate
 LL50: Lethal loading, 50%
 EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-concentration factor
 PBT: persistent, bioaccumulative, toxic
 vPvB: very persistent, very bioaccumulative
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Regulations concerning the international carriage of dangerous goods by rail
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
 intérieures)
 EmS: Emergency Schedules
 MFAG: Medical First Aid Guide
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IBC: Intermediate Bulk Container
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
 assessment, chapter R.20 (Table of terms and abbreviations).

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. 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.

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