

# EG-Sicherheitsdatenblatt

- Metallographiebedarf
- Werkstofftechnik
- IDA Industrie-Diamant-Aachen

**Schmitz**  
Metallographie GmbH

according to Regulation (EC) No 1907/2006

## Ethanol, rein 99,9% (entwässert)

Revision date: 06.03.2020

Product code: 351-100\_-110\_-120

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

#### 1.1. Product identifier

Ethanol, rein 99,9% (entwässert)

#### 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

Any non-intended use.

#### 1.3. Details of the supplier of the safety data sheet

Company name:	Schmitz-Metallographie GmbH	
Street:	Kaiserstraße 100	
Place:	D-52134 Herzogenrath	
Telephone:	02407 / 568296-0	Telefax: 02407 / 568296-9
e-mail:	info@schmitz-metallographie.de	
Contact person:	Herr Füllmann	
e-mail:	info@schmitz-metallographie.de	
Internet:	www.schmitz-metallographie.de	
Responsible Department:	Dr. Gans-Eichler Chemieberatung GmbH Raesfeldstr. 22 D-48149 Münster	e-mail: info@tge-consult.de Tel.: +49(0)251/394868-69 www.tge-consult.de

#### 1.4. Emergency telephone number:

02407 / 568296-0 (Mo-Fr 9:00 - 16:00)

### 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.

according to Regulation (EC) No 1907/2006

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**Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
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			99 - <= 100 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
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.

**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**

In case of accident by inhalation: remove casualty to fresh air and keep at rest. 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**

After contact with skin, wash immediately with plenty of water and soap. 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.

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**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.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). 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**

In use, may form flammable/explosive vapour-air mixture.

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

Can be released in case of fire: Carbon monoxide Carbon dioxide (CO<sub>2</sub>).

**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.

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**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.)

**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. In use, may form flammable/explosive vapour-air mixture. 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.

**Hints on joint storage**

Do not store together with: Gas. Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances and 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**

Recommended storage temperature: 5-25°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 <sup>3</sup>	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

**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	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
Worker DNEL, acute		inhalation	local	1900 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	950 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	950 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day
78-93-3	butanone; ethyl methyl ketone			
Worker DNEL, long-term		dermal	systemic	1161 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	600 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	106 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	412 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	31 mg/kg bw/day

### PNEC values

CAS No	Substance	Value
78-93-3	butanone; ethyl methyl ketone	
Freshwater		55,8 mg/l
Marine water		55,8 mg/l
Freshwater sediment		285 mg/kg
Marine sediment		284,7 mg/kg
Secondary poisoning		1000 mg/kg
Micro-organisms in sewage treatment plants (STP)		709 mg/l
Soil		22,5 mg/kg

### 8.2. Exposure controls



#### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide adequate ventilation. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

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**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. BS/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.

**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:	colourless
Odour:	characteristic
pH-Value:	not determined

**Changes in the physical state**

Melting point:	Ethanol: -114 °C
Initial boiling point and boiling range:	Ethanol: 78 °C
Sublimation point:	not determined
Softening point:	not determined

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Pour point: not determined

Flash point: 12 °C

**Explosive properties**

In use, may form flammable/explosive vapour-air mixture.

Lower explosion limits: 3,3 vol. %

Upper explosion limits: 19 vol. %

Ignition temperature: not determined

**Auto-ignition temperature**

Gas: not determined

Decomposition temperature: not determined

**Oxidizing properties**

none

Vapour pressure:  
(at 20 °C) 59 hPaVapour pressure:  
(at 50 °C) 280 hPaDensity (at 20 °C): 0,79 g/cm<sup>3</sup>

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: 100%

**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.

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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**

Can be released in case of fire: Carbon monoxide Carbon dioxide (CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Toxicocinetics, 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. 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 >5000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA Dossier	
78-93-3	butanone; ethyl methyl ketone				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	



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**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 &gt; 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 &gt;= 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**

No data available

**Practical experience****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**

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	5012 mg/l	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					

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	Acute fish toxicity	LC50	1656 mg/l	96 h	Pimephales promelas	ECHA Dossier	
	Acute algae toxicity	ErC50	1982 mg/l	72 h	Pseudokirchnerella subcapitata	ECHA Dossier	
	Acute crustacea toxicity	EC50	308 mg/l	48 h	Daphnia magna	ECHA Dossier	
	Acute bacteria toxicity	(1150 mg/l)			Pseudomonas putida (16h)	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) = &gt;1 - &lt;36 a.

Abiotic degradation in Air t 1/2 (Air.) = 38 d; 1/2 (Air. 100 ppm NO<sub>2</sub>) = 11,5 h

CAS No	Chemical name	Method	Value	d	Source
	ethanol, ethyl alcohol				
	other guideline		84%	20	ECHA Dossier
	Biodegradable.				
	butanone; ethyl methyl ketone				
	OECD 301D/ EEC 92/69/V, C.4-E		98%	28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).				

**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	0,29

**12.4. Mobility in soil**

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

Volatility Henry constant: 3,3\*10<sup>-6</sup> atm. m<sup>3</sup>/mol;dimension less 1,28\*10<sup>-4</sup> (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**

No data 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,

according to Regulation (EC) No 1907/2006

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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 (ETHYL ALCOHOL)  
**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 (ETHYL ALCOHOL)  
**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 (ETHYL ALCOHOL)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 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:** UN 1170  
**14.2. UN proper shipping name:** ETHYL ALCOHOL  
**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**

See section 8.

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

according to Regulation (EC) No 1907/2006

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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):	100% (calculated)
2004/42/EC (VOC):	790 g/l (calculated)
Information according to 2012/18/EU (SEVESO III):	P5c FLAMMABLE LIQUIDS

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2019/957)  
 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 hazard class (D):	1 - slightly hazardous to water

**15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
 ethanol, ethyl alcohol  
 butanone; ethyl methyl ketone

**SECTION 16: Other information**

**Changes**

09.10.2012 Rev.1.00, Neuerstellung  
 13.02.2015 Rev. 1,01, Änderungen in Kapitel: 2, 3, 4, 6, 8 - 16  
 06.03.2020 Rev. 2,00, Änderungen in Kapitel: 1 - 16.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 CAS Chemical Abstracts Service  
 CLP: Classification, Labelling and Packaging of substances and mixtures  
 DNEL: Derived No Effect Level  
 d: day(s)  
 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

according to Regulation (EC) No 1907/2006

## Ethanol, rein 99,9% (entwässert)

Revision date: 06.03.2020

Product code: 351-100\_-110\_-120

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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 concentration  
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 für Gefahrstoffe  
UN: United Nations  
VOC: Volatile Organic Compounds

### Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
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.)*