

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Ethanol ≥99,8 %, denatured

article number: **K928**  
Version: **8.0 en**  
Replaces version of: 2023-09-12  
Version: (7)

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Revision: 2024-03-04

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

### 1.1 Product identifier

Identification of the substance	<b>Ethanol</b> ≥99,8 %, denatured
Article number	K928
Index No (GB CLP)	603-002-00-5
EC number	200-578-6
CAS number	64-17-5
Alternative name(s)	Ethyl alcohol

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
Uses advised against:	Do not use for private purposes (household). Food, drink and animal feedingstuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: K928

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.6	Flammable liquid	2	Flam. Liq. 2	H225
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319

For full text of abbreviations: see SECTION 16

#### The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

### 2.2 Label elements

#### Labelling

Signal word

Danger

Pictograms

GHS02, GHS07



Hazard statements

H225

Highly flammable liquid and vapour

H319

Causes serious eye irritation

Precautionary statements

**Precautionary statements - prevention**

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P233

Keep container tightly closed

**Precautionary statements - response**

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Ethanol
Molecular formula	C <sub>2</sub> H <sub>6</sub> O
Molar mass	46,07 g/mol
CAS No	64-17-5
EC No	200-578-6
Index No (GB CLP)	603-002-00-5

#### Impurities/additives/constituents:

Name of substance	Identifier	Wt%
2-Propanol	CAS No 67-63-0  EC No 200-661-7  Index No 603-117-00-0	1 - <2
2-Butanone	CAS No 78-93-3  EC No 201-159-0  Index No 606-002-00-3	1 - <2
Bitrex	CAS No 3734-33-6	<0,1

#### Remarks

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

## Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation, Nausea, Vomiting, Abdominal pain, Breathing difficulties, Vertigo, Drowsiness, Narcosis, Loss of righting reflex, and ataxia

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

#### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



**Ethanol  $\geq 99,8$  %, denatured**

article number: **K928**

## 6.3 Methods and material for containment and cleaning up

### Advice on how to contain a spill

Covering of drains.

### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory).

### Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight.

### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice:

Ground/bond container and receiving equipment.

### Ventilation requirements

Use local and general ventilation.

### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

### 7.3 Specific end use(s)

No information available.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: K928

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
GB	ethanol	64-17-5	WEL	1.000	1.920						EH40/2005

#### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### Human health values

##### Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1.900 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	950 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

##### Relevant DNELs of components

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-Butanone	78-93-3	DNEL	600 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
2-Butanone	78-93-3	DNEL	1.161 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-Propanol	67-63-0	DNEL	500 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
2-Propanol	67-63-0	DNEL	1.000 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
2-Propanol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

#### Environmental values

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: K928

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0,79 mg/cm <sup>3</sup>	unknown	marine water	intermittent release
PNEC	2,75 mg/cm <sup>3</sup>	unknown	air	intermittent release
PNEC	3,6 mg/cm <sup>3</sup>	unknown	freshwater sediment	intermittent release
PNEC	0,96 mg/cm <sup>3</sup>	unknown	freshwater	intermittent release
PNEC	0,63 mg/cm <sup>3</sup>	unknown	soil	intermittent release
PNEC	580 mg/cm <sup>3</sup>	unknown	sewage treatment plant (STP)	intermittent release

Relevant PNECs of components						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-Butanone	78-93-3	PNEC	55,8 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-Butanone	78-93-3	PNEC	55,8 mg/l	aquatic organisms	marine water	short-term (single instance)
2-Butanone	78-93-3	PNEC	709 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-Butanone	78-93-3	PNEC	284,7 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-Butanone	78-93-3	PNEC	284,7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-Butanone	78-93-3	PNEC	22,5 mg/kg	terrestrial organisms	soil	short-term (single instance)
2-Propanol	67-63-0	PNEC	140,9 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-Propanol	67-63-0	PNEC	140,9 mg/l	aquatic organisms	marine water	short-term (single instance)
2-Propanol	67-63-0	PNEC	2.251 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-Propanol	67-63-0	PNEC	552 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-Propanol	67-63-0	PNEC	552 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-Propanol	67-63-0	PNEC	28 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**



Use safety goggle with side protection.

## Skin protection



### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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 times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

Butyl caoutchouc (butyl rubber)

### • material thickness

0,7mm

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Flame-retardant protective clothing.

## Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of  $> 65$  °C , colour code: Brown).

## Environmental exposure controls

Keep away from drains, surface and ground water.



# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	pungent
Odour threshold	0,1 – 5.058 ppm
Melting point/freezing point	-114 °C
Boiling point or initial boiling point and boiling range	78 °C at 1.013 hPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	2,5 vol% (LEL) - 13,5 vol% (UEL)
Flash point	12 °C (c.c.)
Auto-ignition temperature	455 °C at 1.013 hPa (ECHA) (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant
pH (value)	7 (in aqueous solution: 10 g/l, 20 °C) (neutral)
Kinematic viscosity	not determined
Dynamic viscosity	0,544 – 0,59 mPa s at 25 °C
<u>Solubility(ies)</u>	
Water solubility	$\geq 1.000$ g/l at 20 °C (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	-0,35 (pH value: 7,4, 24 °C) (ECHA)
Vapour pressure	57,26 hPa at 19,6 °C
<u>Density and/or relative density</u>	
Density	0,79 g/cm <sup>3</sup> at 20 °C
Particle characteristics	not relevant (liquid)

### Other safety parameters

Oxidising properties none

### 9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics:

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

Miscibility	completely miscible with water
Gas group (explosion group)	IIB Maximum Experimental Safe Gap value; 0,5 mm $\leq$ MESG $\leq$ 0,9 mm

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air.

#### If heated

Risk of ignition.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser, Alkali metals, Alkaline earth metal, Acetic anhydride, Peroxides, Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>), Nitric acid, Nitrate, Perchlorates,  
=> Explosive properties

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

Rubber articles, different plastics

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

#### Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	10.470 mg/kg	rat		ECHA
inhalation: vapour	LC50	116,9 mg/l/4h	rat		ECHA

Acute toxicity of components					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
2-Butanone	78-93-3	dermal	LD50	6.480 mg/kg	rabbit
2-Butanone	78-93-3	oral	LD50	2.054 mg/kg	rat

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

Acute toxicity of components					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
2-Propanol	67-63-0	inhalation: vapour	LC50	37,5 mg/l/4h	rat
2-Propanol	67-63-0	oral	LD50	5.045 mg/kg	rat
2-Propanol	67-63-0	dermal	LD50	12.800 mg/kg	rabbit
Bitrex	3734-33-6	oral	LD50	584 mg/kg	rat

### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

vomiting, abdominal pain, nausea, Causes damage to liver through prolonged or repeated exposure if swallowed, loss of righting reflex, and ataxia

#### • If in eyes

Causes serious eye irritation

#### • If inhaled

drowsiness, narcosis, vertigo, breathing difficulties, Inebriation

#### • If on skin

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

#### • Other information

none

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

## 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LC50	15.400 mg/l	fish	ECHA	96 h
EC50	>10.000 mg/l	aquatic invertebrates	ECHA	48 h
ErC50	22.000 mg/l	algae	ECHA	96 h

Aquatic toxicity (acute) of components					
Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
2-Butanone	78-93-3	LC50	2.993 mg/l	fish	96 h
2-Butanone	78-93-3	EC50	308 mg/l	aquatic invertebrates	48 h
2-Butanone	78-93-3	ErC50	1.972 mg/l	algae	72 h
2-Propanol	67-63-0	LC50	10.000 mg/l	fish	96 h

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 2,084 mg/mg  
Theoretical Carbon Dioxide: 1,911 mg/mg

#### Biodegradation

The substance is readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	94 %	d
oxygen depletion	69 %	5 d

Degradability of components						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
2-Butanone	78-93-3	oxygen depletion	98 %	28 d		ECHA

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Ethanol  $\geq 99,8$  %, denatured

article number: **K928**

Degradability of components						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
2-Propanol	67-63-0	biotic/abiotic	95 %	21 d	modifizierter OECD Screening Test	
2-Propanol	67-63-0	oxygen depletion	53 %	5 d		ECHA

## 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-0,35 (pH value: 7,4, 24 °C) (ECHA)
BOD5/COD	0,62110553

Bioaccumulative potential of components				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
2-Butanone	78-93-3		0,3 (pH value: 7, 40 °C)	
2-Propanol	67-63-0		0,05	

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Ethanol ≥99,8 %, denatured

article number: **K928**

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Properties of waste which render it hazardous

**HP 3** flammable

**HP 4** irritant - skin irritation and eye damage

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADRRID	UN 1170
IMDG-Code	UN 1170
ICAO-TI	UN 1170

### 14.2 UN proper shipping name

ADRRID	ETHANOL
IMDG-Code	ETHANOL
ICAO-TI	Ethanol

### 14.3 Transport hazard class(es)

ADRRID	3
IMDG-Code	3
ICAO-TI	3

### 14.4 Packing group

ADRRID	II
IMDG-Code	II
ICAO-TI	II

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

# Safety data sheet Safety data sheet


acc. to Regulation (EC) No. 1907/2006 (REACH)




Ethanol ≥99,8 %, denatured

article number: K928


## Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

Proper shipping name	ETHANOL
Particulars in the transport document	UN1170, ETHANOL, 3, II, (D/E)
Classification code	F1
Danger label(s)	3
	
Special provisions (SP)	144, 601
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33
<b>Emergency Action Code</b>	2YE

## Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

<b>Classification code</b>	F1
<b>Danger label(s)</b>	3
	
<b>Special provisions (SP)</b>	144, 601
<b>Excepted quantities (EQ)</b>	E2
<b>Limited quantities (LQ)</b>	1 L
<b>Transport category (TC)</b>	2
<b>Hazard identification No</b>	33

## International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ETHANOL
Particulars in the shipper's declaration	UN1170, ETHANOL, 3, II, 12°C c.c.
Marine pollutant	-
Danger label(s)	3
	
Special provisions (SP)	144
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Ethanol ≥99,8 %, denatured

article number: **K928**

Stowage category

A

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name

Ethanol

Particulars in the shipper's declaration

UN1170, Ethanol, 3, II

Danger label(s)

3



Special provisions (SP)

A3, A58, A180

Excepted quantities (EQ)

E2

Limited quantities (LQ)

1 L

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

###### 2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
P5c	flammable liquids (cat. 2, 3)	5.000	50.000	51)

##### Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

##### Deco-Paint Directive

VOC content	100 %
VOC content	790 g/l

##### Industrial Emissions Directive (IED)

VOC content	100 %
VOC content	790 g/l

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed



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Ethanol  $\geq 99,8$  %, denatured

article number: K928

## Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Ethanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

### Legend

a) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

not listed

### Regulation on drug precursors

not listed

### Regulation on substances that deplete the ozone layer (ODS)

not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

### Regulation on persistent organic pollutants (POP)

not listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

### Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Ethanol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
Ethanol	flammable / pyrophoric		40

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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## National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$ .	yes

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## Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
log KOW	n-Octanol/water

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

## Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

## List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

## Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.