

# SAFETY DATA SHEET

according to Occupational Safety And Health  
(Classification, Labelling And Safety Data Sheet Of  
Hazardous Chemicals) Regulations 2013 (CLASS 2013)

Revision Date 19.03.2020

Version 1.11

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

### 1.1 Product identifier

Catalogue No.	107017
Product name	Ethanol absolute for analysis EMPARTA® ACS
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	64-17-5

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt *Germany* Telefon: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>
Regional representation	Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel: 03-74943688 Fax: 03-74910850

### 1.4 Emergency telephone number Customer Call Centre: + 62 0800 140 1253 (Toll Free)

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to CLASS regulations 2013

Flammable liquid, Category 2, H225

Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

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according to Regulation (EC) No. 1907/2006

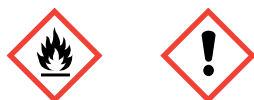
Catalogue No.  
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## 2.2 Label elements

### Labelling according to CLASS regulations 2013

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

*Precautionary statements*

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P240 Ground/bond container and receiving equipment.

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.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

### Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*

Danger

*Precautionary statements*

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

CAS-No. 64-17-5

## 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	C <sub>2</sub> H <sub>5</sub> OH	C <sub>2</sub> H <sub>6</sub> O (Hill)
EC-No.	200-578-6	
Molar mass	46.07 g/mol	

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## Hazardous components according to CLASS regulations 2013

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
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etanol (<= 100 % )

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

64-17-5 \*)

Flammable liquid, Category 2, H225  
Eye irritation, Category 2, H319

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder, Water

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible.

Pay attention to flashback.

Forms explosive mixtures with air at ambient temperatures.

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Vapours are heavier than air and may spread along floors.  
Development of hazardous combustion gases or vapours possible in the event of fire.

## 5.3 Advice for firefighters

*Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

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

*Storage conditions*

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

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## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

*etanol (64-17-5)*

MY OEL	Time Weighted	1,000 ppm
	Average (TWA):	1,880 mg/m <sup>3</sup>

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

##### *Eye/face protection*

Safety glasses

Safety glasses

##### *Hand protection*

full contact:

Glove material:	butyl-rubber
Glove thickness:	0.7 mm
Break through time:	480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.40 mm
Break through time:	120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

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## *Other protective equipment*

Flame retardant antistatic protective clothing.

## *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

## **Environmental exposure controls**

Do not let product enter drains.

Risk of explosion.

## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	alcohol-like
Odour Threshold	0.1 - 5058.5 ppm
pH	7.0 at 10 g/l 20 °C
Melting point	-114.5 °C
Boiling point/boiling range	78.3 °C at 1,013 hPa
Flash point	13 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	3.1 %(V)
Upper explosion limit	27.7 %(V)
Vapour pressure	59 hPa at 20 °C
Relative vapour density	1.6

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Density	0.790 - 0.793 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C completely miscible
Partition coefficient: n-octanol/water	log Pow: -0.31 (experimental) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	1.2 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Ignition temperature	425 °C Method: DIN 51794
Conductivity	< 1 µS/cm

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Vapours may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxy compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide

silver, with, Nitric acid

silver compounds, with, Ammonia

potassium permanganate, with, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapours with:

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halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum

Nitric acid, with, potassium permanganate

## 10.4 Conditions to avoid

Warming.

## 10.5 Incompatible materials

rubber, various plastics

## 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: 10,470 mg/kg

OECD Test Guideline 401

Symptoms: Nausea, Vomiting

*Acute inhalation toxicity*

LC50 Rat: 124.7 mg/l; 4 h ; vapour

OECD Test Guideline 403

Symptoms: slight mucosal irritations

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

Rabbit

Result: No skin irritation

OECD Test Guideline 404

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

*Eye irritation*

Rabbit

Result: Eye irritation

OECD Test Guideline 405

Causes serious eye irritation.

*Sensitisation*

Local lymph node assay (LLNA) Mouse

Result: negative

Method: OECD Test Guideline 429

*Germ cell mutagenicity*



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## *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

Application Route: Oral

Mouse

Method: OECD Test Guideline 416

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

### **11.2 Further information**

Systemic effects:

euphoria

After absorption:

Dizziness, inebriation, narcosis, respiratory paralysis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **12.1 Toxicity**

#### *Toxicity to fish*

flow-through test EC50 Pimephales promelas (fathead minnow): 15,300 mg/l; 96 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 9,268 - 14,221 mg/l; 48 h

(IUCLID)

#### *Toxicity to algae*

IC5 Scenedesmus quadricauda (Green algae): 5,000 mg/l; 7 d

(Lit.)

#### *Toxicity to bacteria*

EC5 Pseudomonas putida: 6,500 mg/l; 16 h

(IUCLID)

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*Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*  
semi-static test NOEC Daphnia magna (Water flea): 9.6 mg/l; 9 d  
(ECHA)

## 12.2 Persistence and degradability

*Biodegradability*

94 %

OECD Test Guideline 301E

Readily biodegradable

*Biochemical Oxygen Demand (BOD)*

930 - 1,670 mg/g (5 d)

(Lit.)

*Theoretical oxygen demand (ThOD)*

2,100 mg/g

(Lit.)

*Ratio COD/ThBOD*

90 %

(Lit.)

## 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: -0.31

(experimental)

(Lit.) Bioaccumulation is not expected.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC)

No 1907/2006, Annex XIII.

## 12.6 Other adverse effects

*Additional ecological information*

No interference with wastewater treatment plants are to be expected when used properly.

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 1170
<b>14.2 Proper shipping name</b>	ETHANOL
<b>14.3 Class</b>	3
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	D/E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

<b>14.1 UN number</b>	UN 1170
<b>14.2 Proper shipping name</b>	ETHANOL
<b>14.3 Class</b>	3
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	no

### Sea transport (IMDG)

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Catalogue No.	107017
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<b>14.1 UN number</b>	UN 1170
<b>14.2 Proper shipping name</b>	ETHANOL
<b>14.3 Class</b>	3
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
EmS	F-E S-D

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

## SECTION 15. Regulatory information

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

All national and local regulations, including Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, if applicable to the use, should be observed.

*National legislation*

Storage class 3

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

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

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Danger

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## *Hazard statements*

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

## *Precautionary statements*

### Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

### 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.

### Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

## **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## **Regional representation**

Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel: 03-74943688 Fax: 03-74910850

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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