

**Ethanol**

32221-1L

Version 1.5

Revision Date 17.12.2022

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

**1.1. Product identifier**

Product name : Ethanol  
SDS-number : 000000020235  
Type of product : Substance  
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.  
Chemical name : ethanol; ethyl alcohol  
Index-No. : 603-002-00-5  
REACH Registration Number : no data available

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

Use of the Substance/Mixture : Laboratory chemicals  
Uses advised against : none

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

Company	:	Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
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Telephone :  
For further information, please contact: : SafetyDataSheet@Honeywell.com

**1.4. Emergency telephone number**

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)  
   : +1-303-389-1414 (Medical)  
Country based Poison Control Center : see chapter 15.1

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### SECTION 2: Hazards identification


#### 2.1. Classification of the substance or mixture

##### REGULATION (EC) No 1272/2008

Flammable liquids Category 2  
H225 Highly flammable liquid and vapour.  
Eye irritation Category 2  
H319 Causes serious eye irritation.

#### 2.2. Label elements

##### REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.
Precautionary statements	:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention.

#### 2.3. Other hazards

Vapours may form explosive mixtures with air. Results of PBT and vPvB assessment, see chapter 12.5.

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
ethanol; ethyl alcohol	64-17-5 603-002-00-5 200-578-6	Flam. Liq. 2; H225 Eye Irrit. 2; H319	100 %	Eye Irrit. 2; H319: >= 50 %

#### 3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

Take off all contaminated clothing immediately. Consult a physician for severe cases. No hazards which require special first aid measures.

*Inhalation:*

Remove to fresh air.

*Skin contact:*

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

*Eye contact:*

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. If eye irritation persists, consult a specialist.

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### *Ingestion:*

When swallowed, allow water to be drunk. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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

No data available

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

No data available

See Section 11 for more detailed information on health effects and symptoms. :

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### *Suitable extinguishing media:*

Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

#### *Extinguishing media which shall not be used for safety reasons:*

Do not use a solid water stream as it may scatter and spread fire.

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

Flammable.

Vapours may form explosive mixtures with air.

Vapours are heavier than air and may spread along floors.

Vapors may travel to areas away from work site before igniting/flashing back to vapor source.

In case of fire hazardous decomposition products may be produced such as:

Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

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### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 6: Accidental release measures

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

Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. The product evaporates readily.

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

Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Keep limited supplies at workplace.

*Advice on protection against fire and explosion:*

The product is easily combustible. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Vapours may form explosive mixtures with air.

*Hygiene measures:*

Keep working clothes separately. Ensure adequate ventilation, especially in confined areas.

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

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*Further information on storage conditions:*

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not leave vessels/containers open Avoid product residues in/on containers.

*Advice on common storage:*

Do not store together with: Oxidizing agents

### 7.3. Specific end use(s)

no additional data available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits:**

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
ethanol; ethyl alcohol	EH40 WEL TWA	1.920 mg/m <sup>3</sup> 1.000 ppm		

TWA - Time weighted average

### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
ethanol; ethyl alcohol	Workers / Acute local effects		1900 mg/m <sup>3</sup>	Inhalation	
ethanol; ethyl alcohol	Workers / Long-term systemic effects		343mg/kg bw/d	Skin contact	
ethanol; ethyl alcohol	Workers / Long-term systemic effects		950 mg/m <sup>3</sup>	Inhalation	
ethanol; ethyl alcohol	Consumers / Long-term systemic		114 mg/m <sup>3</sup>	Inhalation	

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	effects				
ethanol; ethyl alcohol	Consumers / Acute local effects		950 mg/m3	Inhalation	
ethanol; ethyl alcohol	Consumers / Long-term systemic effects		206mg/kg bw/d	Skin contact	
ethanol; ethyl alcohol	Consumers / Long-term systemic effects		87mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
ethanol; ethyl alcohol	Fresh water: 0,96 mg/l	
ethanol; ethyl alcohol	Marine water: 0,79 mg/l	
ethanol; ethyl alcohol	Fresh water sediment: 3,6 mg/kg	
ethanol; ethyl alcohol	Soil: 0,63 mg/kg	

### 8.2. Exposure controls

#### Occupational exposure controls

Do not breathe vapours/dust.

Take off all contaminated clothing immediately.

Recommended preventive skin protection

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

#### Personal protective equipment

*Respiratory protection:*

In the case of vapour formation use a respirator with an approved filter.

Recommended Filter type:

Organic vapour type

*Hand protection:*

Glove material: butyl-rubber

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Break through time: > 480 min

Glove thickness: 0,7 mm

Butoject® 898

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

### *Eye protection:*

Safety goggles

### *Skin and body protection:*

Flame retardant antistatic protective clothing.

Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire.

### **Environmental exposure controls**

Handle in accordance with local environmental regulations and good industrial practices.

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

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

Physical state	: liquid
Colour	: colourless
Odour	: characteristic
molecular weight	: 46,1 g/mol
Melting point/range	: -115 °C
Boiling point/boiling range	: 78 - 79 °C



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	at 1.013 hPa
Upper explosion limit	: 15 %(V)
Lower explosion limit	: 3,4 %(V)
Flash point	: 12 °C Method: DIN 51755
Auto-ignition temperature	: 425 °C
Decomposition temperature	: At normal pressure may be distilled without decomposition. Fire or intense heat may cause violent rupture of packages.
pH	: No data available
Water solubility	: completely miscible
Solubility in other solvents	: Soluble in most organic solvents
Partition coefficient: n-octanol/water	: log Pow -0,32
Vapour pressure	: 59 hPa at 20 °C
Density	: 0,790 - 0,791 g/cm <sup>3</sup> at 20 °C

### 9.2 Other Information

no additional data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under recommended storage conditions.

### 10.2. Chemical stability

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At normal pressure may be distilled without decomposition.  
Fire or intense heat may cause violent rupture of packages.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Heat, flames and sparks.  
Keep away from direct sunlight.

### 10.5. Incompatible materials

Reactions with alkali metals.  
Evolution of inflammable gases/vapours easily.  
Uncleaned empty vessels may contain product gases which can form explosive mixtures with air.  
Explosive reactions with oxidising agents such as potassium chlorate and/or peroxides.

### 10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### *Acute oral toxicity:*

LD50

Species: Rat

Value: 10.470 mg/kg

Method: OECD Test Guideline 401

#### *Acute dermal toxicity:*

No data available

#### *Acute inhalation toxicity:*

LC50

Species: Rat

Value: 124,7 mg/l

Exposure time: 4 h

Method: OECD Test Guideline 403

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*Skin irritation:*

Species: Rabbit  
Result: No skin irritation  
Method: OECD Test Guideline 404

*Eye irritation:*

Species: Rabbit  
Result: Moderate eye irritation  
Method: OECD Test Guideline 405

*Respiratory or skin sensitisation:*

Route of exposure: Skin contact  
Species: Guinea pig  
Result: Did not cause sensitisation on laboratory animals.  
Method: OECD Test Guideline 406

*Repeated dose toxicity:*

Species: Rat, male  
Application Route: Oral  
Exposure time: 90 d  
LOAEL: 3.156 mg/kg  
Method: OECD 408

*Germ cell mutagenicity:*

Test Method: Ames test  
Result: negative  
Method: OECD Test Guideline 471

Test Method: In vitro gene mutation study in mammalian cells

Result: negative  
Method: OECD Test Guideline 476

Test Method: Chromosome aberration test

Method: OECD Test Guideline 478  
Result: equivocal

*Reproductive toxicity:*

Species: Rat  
Developmental Toxicity: NOAEL: 5.200 mg/kg bw/d

*Aspiration hazard:*

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No data available

### 11.2. Information on other hazards

Endocrine disrupting properties  
No data available

*Other information:*

Solvent removes skin oil from the skin.  
Solvent vapours have a narcotic effect if inhaled in high concentrations.  
Poisoning affects the central nervous system.

## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

LC50  
Species: Pimephales promelas (fathead minnow)  
Value: 14.200 mg/l  
Exposure time: 96 h

NOEC

semi-static test  
Species: Danio rerio (zebra fish)  
Value: 250 mg/l  
Exposure time: 120 h  
Method: OECD Test Guideline 212

*Toxicity to aquatic plants:*

EC50  
Growth rate  
Species: Chlorella vulgaris (Fresh water algae)  
Value: 275 mg/l  
Exposure time: 3 d  
Method: OECD Test Guideline 201

EC50

Growth rate  
Species: Chlorella vulgaris (Fresh water algae)  
Value: 675 mg/l  
Exposure time: 4 d  
Method: OECD Test Guideline 201

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Honeywell**  
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EC50

Biomass

Species: Lemna gibba (gibbous duckweed)

Value: 5.967 mg/l

Exposure time: 7 d

NOEC

Biomass

Species: Lemna gibba (gibbous duckweed)

Value: 5.967 mg/l

Exposure time: 7 d

*Toxicity to aquatic invertebrates:*

LC50

static test

Species: Ceriodaphnia dubia (water flea)

Value: 5.012 mg/l

Exposure time: 48 h

*Chronic toxicity to aquatic invertebrates:*

NOEC

semi-static test

Species: Ceriodaphnia dubia (water flea)

Value: 9,6 mg/l

Exposure time: 10 d

*Chronic toxicity to aquatic invertebrates:*

LC50

Reproduction Test

semi-static test

Species: Ceriodaphnia dubia (water flea)

Value: 1.806 mg/l

Exposure time: 10 d

*Chronic toxicity to aquatic invertebrates:*

NOEC

semi-static test

Species: Daphnia magna (Water flea)

Value: 9,6 mg/l

Exposure time: 9 d

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### *Chronic toxicity to aquatic invertebrates:*

LC50

Reproduction Test

semi-static test

Species: Daphnia magna (Water flea)

Value: 454 mg/l

Exposure time: 9 d

### **12.2. Persistence and degradability**

#### *Biodegradability:*

aerobic

Biodegradation: 95 %

Exposure time: 15 d

Result: Readily biodegradable.

### **12.3. Bioaccumulative potential**

No data available

### **12.4. Mobility in soil**

No data available

### **12.5. Results of PBT and vPvB assessment**

This substance is not considered to be very persistent and very bioaccumulating (vPvB).

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

### **12.6. Endocrine disrupting properties**

No data available

### **12.7. Other adverse effects**

No data available

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## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### *Product:*

Dispose according to legal requirements.

#### *Packaging:*

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Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:  
EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

For personal protection see section 8.

### SECTION 14: Transport information

**14.1 UN number**

ADR/RID:1170

IMDG:1170

IATA:1170

**14.2 UN proper shipping name**

ADR/RID:ETHANOL

IMDG:ETHANOL

IATA:Ethanol

**14.3 Transport hazard class(es)**

ADR/RID: 3

IMDG: 3

IATA: 3

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID:no

Marine pollutant: no

**14.6 Special precautions for user**

No data available

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

No data available

### SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : P5c: FLAMMABLE LIQUIDS Number in Regulation: 1.2.5.3	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	

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Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).
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**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
Homburg : 06841/19240	

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftnformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111



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	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

**Text of H-statements referred to under heading 3**

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ethanol; ethyl alcohol : H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

#### Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

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