according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU

Ethanol, denatured

article number: PO0934.1

Version: 5.0 en

Replaces version of: 2019-04-04

Version: (4)



date of compilation: 2015-07-31

Revision: 2021-04-26

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

Product identifier 1.1

Identification of the substance **Ethanol** Article number PO0934.1

Registration number(REACH) 01-2119457610-43-xxxx

Index No 603-002-00-5 EC number 200-578-6 CAS number 64-17-5

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

Identified uses: laboratory chemical

laboratory and analytical use

formulation [mixing] of preparations and/or re-

packaging (excluding alloys)

řeedstock uše

metal surface treatment product non-metal-surface treatment product

info@laboratoriumdiscounter.nl

process agent use

thinner (coatings and paints)

1.3 Details of the supplier of the safety data sheet

Laboratoriumdiscounter Zandvoortstraat 75 1976BN Ijmuiden Nederland

Telephone: +31 (0) 255 700 210 e-mail: info@laboratoriumdiscounter.nl Website: www.laboratoriumdiscounter.nl

Competent person responsible for the safety data

sheet:

: Department Health, Safety and Environment

e-mail (competent person):

Emergency telephone number

1.4

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

Emergency information service

+49/(0)8919240

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Class	ifica	tion	200	to	CHS
Class	IIICa	uon	acc.	w	ч

Section	Hazard class	Hazard class and cat- egory	Hazard state- ment
2.6	flammable liquid	(Flam. Liq. 2)	H225
3.3	serious eye damage/eye irritation	(Eye Irrit. 2)	H319

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

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.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Symbol(s)





2.3 Other hazards

There is no additional information.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Ethyl alcohol Index No 603-002-00-5

Registration number(REACH) 01-2119457610-43-xxxx

EC number 200-578-6 CAS number 64-17-5 Molecular formula C_2H_6O Molar mass $46,07^g/_{mol}$

Impurities and additives, classification acc. to EU regulation

Name of substance	Identifier	Wt%	Classification acc. to 1272/2008/EC
2-Butanone	CASNo 78-93-3 EC No 201-159-0 Index No 606-002-00-3	1 - < 2	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336
2-Propanol	CASNo 67-63-0 EC No 200-661-7 Index No 603-117-00-0	1 - < 2	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336
Bitrex	CAS No 3734-33-6	< 0,1	Acute Tox. 4 / H302

Remarks

For full text of H-phrases: see SECTION 16. 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.

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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.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

2. Most important symptoms and effects, both acute and delayed

Irritation, Vertigo, Abdominal pain, Vomiting, Nausea, Narcosis, Breathing difficulties

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 fire-fighting measures to the fire surroundings water spray, foam, alcohol resistant foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

2. Special hazards arising from the substance or mixture

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours can form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO 2)

3. Advice for firefighters

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 emergencyprocedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin and eyes. Do not breathe vapour/spray. Removal of ignition sources.

2. Environmental precautions

Keep away from drains, surface and ground water. Explosive properties.

3. Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

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Advice on how to clean up a spill

Absorb with liquid-binding material (e.g. 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

1. Precautions for safe handling

Provide adequate ventilation as well as local exhaustion at critical locations. Keep container tightly closed.

· 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.

2. Conditions for safe storage, including anyincompatibilities

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.

3. Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Co u ntr y	Name of agent	CAS No	Nota- tion	Identi- fier	TW A [pp m]	TWA [mg/ m³]	SELBE	STEL [mg/ m³]	Ceil- ing-C [ppm	Ceil- ing-C [mg/ m³]	Source
GB	ethanol	64-17-5		WEL	1.00 0	1.920					EH40/ 2005

Notation

Ceiling-C

TWA

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)

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)

Relevant DNELs/DMELs/PNECs and other threshold levels

· human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time	
DNEL	1.900 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects	
DNEL	DNEL 343 mg/kg human, dermal		worker (industry)	chronic - systemic effects	
DNEL	DNEL 950 mg/m³ human, inhal-		worker (industry)	chronic - systemic effects	

relevant DNELs of components of themixture

Name of sub- stance	CAS No	End- point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-Butanone	78-93-3	DNEL	600 mg/m ³	human, inhalatory	worker (in- dustry)	chronic - systemic ef- fects
2-Butanone	78-93-3	DNEL			worker (in- dustry)	chronic - systemic ef- fects
2-Propanol	67-63-0	DNEL	500 mg/m ³	ng/m³ human, inhalatory worker (industry)		chronic - systemic ef- fects
2-Propanol	67-63-0	DNEL	888 mg/kg bw/ day	human, dermal	worker (in- dustry)	chronic - systemic ef- fects

environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0,79 ^{mg} / _{cm³}	marine water	intermittent release
PNEC	2,75 ^{mg} / _{cm³}	air	intermittent release
PNEC	3,6 ^{mg} / _{cm³}	freshwater sediment	intermittent release
PNEC	0,96 ^{mg} / _{cm³}	freshwater	intermittent release
PNEC	0,63 mg/cm3	soil	intermittent release

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Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	580 ^{mg} / _{cm³}	sewage treatment plant (STP)	intermittent release

relevant PNECs of components of themixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
2-Butanone	78-93-3	PNEC	55,8 ^{mg} / _I	freshwater	short-term (single in- stance)
2-Butanone	78-93-3	PNEC	55,8 ^{mg} / _I	marine water	short-term (single in- stance)
2-Butanone	78-93-3	PNEC	709 ^{mg} / _l	sewage treatment plant (STP)	short-term (single in- stance)
2-Butanone	78-93-3	PNEC	284,7 ^{mg} / _{kg}	freshwater sedi- ment	short-term (single in- stance)
2-Butanone	78-93-3	PNEC	284,7 ^{mg} / _{kg}	marine sediment	short-term (single in- stance)
2-Butanone	78-93-3	PNEC	22,5 ^{mg} / _{kg}	soil	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	140,9 ^{mg} / _I	freshwater	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	140,9 ^{mg} / _I	marine water	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	2.251 ^{mg} / _l	sewage treatment plant (STP)	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	552 ^{mg} /kg	freshwater sedi- ment	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	552 ^{mg} / _{kg}	marine sediment	short-term (single in- stance)
2-Propanol	67-63-0	PNEC	28 ^{mg} / _{kg}	soil	short-term (single in- stance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



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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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state liquid (fluid)
Colour colourless
Odour pungent

Odour threshold $0,1-5.058\,\mathrm{ppm}$

Other physical and chemical parameters

pH (value) ~ 7 (water: 10 ^g/_I, 20 °C) (neutral)

Melting point/freezing point -114 °C

Initial boiling point and boiling range 78 °C at 1.013 hPa

Flash point 12 °C

Evaporation rate no data available Flammability (solid, gas) not relevant (fluid)

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Explosive limits

lower explosion limit (LEL)
 upper explosion limit (UEL)
 13,5 vol%
 Explosion limits of dust clouds
 not relevant

Vapour pressure 57,26 hPa at 19,6 °C Density $0,79 \, {}^{\rm g}/{}_{\rm cm^3}$ at 20 °C

Vapour density This information is not available.

Bulk density Not applicable

Relative density Information on this property is not available.

Solubility(ies)

Water solubility ≥1.000 ^g/_l at 20 °C miscible in any proportion

Partition coefficient

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

Auto-ignition temperature 455 °C at 1.013 hPa - ECHA

455 °C at 1.013 hPa

Decomposition temperature no data available

Viscosity

• kinematic viscosity 0,7468 mm²/s

•dynamic viscosity 0,544 – 0,59 mPa s at 25 °C

Explosive properties Shall not be classified as explosive

Oxidising properties none

9.2 Other information

Temperature class (EU, acc. to ATEX)

T1 (Maximum permissible surface temperature

on the equipment: 450°C)

SECTION 10: Stability and reactivity

1. Reactivity

Risk of ignition. Vapours can form explosive mixtures with air.

2. Chemical stability

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

3. Possibility of hazardous reactions

<u>Violent reaction with:</u> Alkali metals, Alkaline earth metal, Acetic anhydride, Peroxides, Phosphorus oxides (e.g. P2O5), Strong oxidiser, Nitric acid, Nitrate, Perchlorates, => Explosive properties

4. Conditions to avoid

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

5. Incompatible materials

plastic and rubber

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10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species	Source
oral LD50		10.470 ^{mg} / _{kg}	rat	ECHA
inhalation: vapour	LC50	116,9 ^{mg} / _l /4h	rat	ECHA

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.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor 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

nausea, vomiting, abdominal pain, Causes damage to liver through prolonged or repeated exposure if swallowed

If in eyes

Causes serious eye irritation

If inhaled

vertigo, Inebriation, narcosis, breathing difficulties

· 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

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SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: 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} / _I	aquatic invertebrates	ECHA	48 h
ErC50	22.000 ^{mg} / _l	algae	ECHA	96 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	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 inverteb- rates	48 h
2-Butanone	78-93-3	ErC50	1.972 ^{mg} / _l	algae	72 h
2-Propanol	67-63-0	LC50	9.640 ^{mg} / _I	Pimephales pro- melas	96 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
NOEC	250 ^{mg} / _l	fish	ECHA	120 h
NOEC	2 ^{mg} / _l	aquatic invertebrates	ECHA	10 d
growth rate (ErCx) 10%	86 ^{mg} / _l	algae	ECHA	4 d

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-Propanol	67-63-0	LC50	>10.000 ^{mg} / _I	aquatic inverteb- rates	24 h

12.2 Process of degradability

The substance is readily biodegradable. Theoretical Oxygen Demand: 2,084 mg/mg Theoretical Carbon Dioxide: 1,911 mg/mg Biochemical Oxygen Demand: 1.236 mg/g at 5 d

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

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Degradability of components of themixture

Name of sub- stance	CAS No	Process	Degradation rate	Time
2-Butanone	78-93-3	oxygen depletion	98 %	28 d
2-Propanol	67-63-0	biotic/abiotic	95 %	21 d
2-Propanol	67-63-0	oxygen depletion	53 %	5 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

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

BOD5/COD 0,62110553

Bioaccumulative potential of components of the mixture

Name of sub- stance	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	

4. Mobility insoil

Data are not available.

5. Results of PBT and vPvB assessment

Data are not available.

6. 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.

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.

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.

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SECTION 14: Transport information

UN number 1. 1170

2. UN proper shipping name **ETHANOL** Hazardous ingredients Ethanol

3. Transport hazard class(es)



Class 3 (flammable liquids)

4. Packing group II (substance presenting medium danger)

5. **Environmental hazards** NONE (non-environmentally hazardous acc. to the danger-

ous goods regulations)

6. Special precautions for user

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

Transport in bulk according to Annex II of MARPOL and the IBC Code 7.

The cargo is not intended to be carried in bulk.

8. Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number 1170

Proper shipping name **ETHANOL**

Particulars in the transport document UN1170, ETHANOL, 3, II, (D/E)

Class 3

Classification code F1 Ш

Packing group

Danger label(s) 3



Emergency Action Code

Special provisions (SP) 144,601

Excepted quantities (EQ) E2

1 L Limited quantities (LQ)

Transport category (TC) 2

Tunnel restriction code (TRC) D/E

Hazard identification No 33

International Maritime Dangerous Goods Code (IMDG)

UN number 1170

Proper shipping name **ETHANOL**

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Particulars in the shipper's declaration UN1170, ETHANOL, 3, II, 12°Cc.c.

Class 3

Marine pollutant
Packing group II

Danger label(s) 3



Special provisions (SP)

Excepted quantities (EQ)

Limited quantities (LQ)

EmS

F-E, S-D

Stowage category

A

• International Civil Aviation Organization (ICAO-IATA/DGR)

UN number 1170
Proper shipping name Ethanol

Particulars in the shipper's declaration UN1170, Ethanol, 3, II

Class 3
Packing group II
Dangerlabel(s) 3



Special provisions (SP) A3, A58, A180

Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L

SECTION 15: Regulatory information

- 1. Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)
 - Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) Not listed.
 - Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) Not listed.
 - Regulation 850/2004/EC on persistent organic pollutants (POP) Not listed.

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• Restrictions according to REACH, Annex XVII

Name of substance	CAS No	Wt%	Type of registration	Conditions of restric- tion	No
Ethanol		100	1907/2006/EC annex XVII	R3	3
Ethanol		100	1907/2006/EC annex XVII	R40	40

Legend

R3

1. Shall not be used in:

- -ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays - tricks and jokes
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market.
- 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or per-
- fume, or both, if they:
 can be used as fuel in decorative oil lamps for supply to the general public, and,
 present an aspiration hazard and are labelled with R65 or H304,
- 4.Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisa-
- (CEN).

 5. Without prejudice to the implementation of other Community provisions relating to the classification, pack aging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
- (a)lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil or even sucking the wick of lamps may lead to life-threatening lung damage'; (b)grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage'; (c)lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010
- black opaque containers not exceeding 1 litre by 1 December 2010.

 6.No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
- 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States
- shall make those data available to the Commission.

 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:

 - metallic glitter intended mainly for decoration,

 - artificial snow and frost,

 - - 'whoopee' cushions,- silly string aerosols,
 - imitation excrement,
 - horns for parties,

 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs
 - 2.Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: For professional users only.
 - 3.By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 - 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
- Restrictions according to REACH, Title VIII

R40

 List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list not listed

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Ethanol, denatured

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Seveso Directive

2012/18/EU	(Seveso	III)
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No	Dangerous substance/hazard categories	Qualifying quantity (to plication of lower an quireme	d upper-tier re-	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

Directive 75/324/EEC relating to aerosol dispensers

Filling batch

Deco-Paint Directive (2004/42/EC)

VOC content	100 %			
Directive on industrial emissions (VOCs, 2010/75/EU)				
VOC content	100 %			

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

not listed

National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	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

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Country	National inventories	Status
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

Legend

AlCS
Australian Inventory of Chemical Substances
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 Im

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
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances
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

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European 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
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
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)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)

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EINECS European Inventory of Existing Commercial Chemical Substances ELINCS European List of Notified Chemical Substances Ems Emergency Schedule EICS0 = ECS0: 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 Eye Dam. seriously damaging to the eye Eye Irrit. irritant to the eye Flam. Liq. fflammable liquid GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations IATA International Air Transport Association IATADGR Dangerous Goods Regulations (DGR) for the air transport (IATA) ICA0 International Awitime Dangerous Goods Code Index No 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) LC50 Lethal Coso-Govis the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval LD50 Lethal Coso-Govis the LC50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval LD50 Lethal Coso-Govis the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval LD50 Lethal Coso-Govis the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval LD50 Lethal Dose-Govis the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval LD50 RAW n-octanol/water MARPL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") NDEC No Observed Effect Concentration PBT Persistent, Bioaccumulative and Toxic PNEC Predicted No-Effect Concentration PBT Registent concernant le transport International ferroviare des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) STEL Short-term exposure limit STOT SE specific target organ	Abbr.	Descriptions of used abbreviations
EmS Emergency Schedule ErC50	EINECS	European Inventory of Existing Commercial Chemical Substances
ECS0: Inthis method, that concentration of test substance which results in a 50 % reduction in either growth (EbCs0) or growth rate (ErCs0) relative to the control Eye Dam. seriously damaging to the eye Eye Irrit. Irritant to the eye Flam. Liq. Iflammable liquid GHS 'Globally Harmonized System of Classification and Labelling of Chemicals' developed by the United Nations IATA International Air Transport Association IATA International Civil Aviation Organization IATA Dangerous Goods Regulations (DGR) for the air transport (IATA) ICAO International Maritime Dangerous Goods Code Index No International Maritime Dangerous Goods Code Index No Ithe Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 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 log KOW n-octanol/water MARPOL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") NLP No-Longer Polymer NOEC No Observed Effect Concentration 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 STOTSE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VoC Volatile Organic Compounds veve	ELINCS	European List of Notified Chemical Substances
growth (EbC50) or growth rate (ErC50) relative to the control Eye Dam. seriously damaging to the eye Eye Irrit. irritant to the eye Flam. Liq. fliammable liquid 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 IMDG International Maritime Dangerous Goods Code Index No International Conventration 50%: the LC50 corresponds to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 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 log KOW n-octanol/water MARPOL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") NLP No-Longer Polymer NOEC No Observed Effect Concentration PBT Persistent, Bioaccumulative and Toxic PNEC Predicted No-Effect Concentration ppm parts per million REACH Registration, Evaluation, Authorisation and Restriction of Chemicals RID Registration, Evaluation, Authorisation and Restriction of Chemicals STEL short-term exposure limit STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds vevB very Persistent and very Bioaccumulative	EmS	Emergency Schedule
Eye Irrit. irritant to the eye Flam. Liq. flammable liquid 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 IMDG 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 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 log KOW n-octanol/water MARPOL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") NLP No-Longer Polymer NOEC No Observed Effect Concentration PBT Persistent, Bioaccumulative and Toxic PNEC Predicted No-Effect Concentration PBT Persistent, Evaluation, Authorisation and Restriction of Chemicals REACH Registration, Evaluation, Authorisation and Restriction of Chemicals REACH Registration, Evaluation, International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) STEL short-term exposure limit STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds veve Very Persistent and very Bioaccumulative	ErC50	
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IATA International Air Transport Association IATA/DGR Dangerous Goods Regulations (DGR) for the air transport (IATA) ICAO International Civil Aviation Organization IMDG 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 log KOW n-octanol/water MARPOL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") NLP No-Longer Polymer NOEC No Observed Effect Concentration 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 STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds vevb wery Persistent and very Bioaccumulative	Flam. Liq.	flammable liquid
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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 STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds VPVB very Persistent and very Bioaccumulative	NOEC	No Observed Effect Concentration
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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 STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds vPvB very Persistent and very Bioaccumulative	PNEC	Predicted No-Effect Concentration
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STOT SE specific target organ toxicity - single exposure SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds vPvB very Persistent and very Bioaccumulative	RID	
SVHC Substance of Very High Concern TWA time-weighted average VOC Volatile Organic Compounds vPvB very Persistent and very Bioaccumulative	STEL	short-term exposure limit
TWA time-weighted average VOC Volatile Organic Compounds vPvB very Persistent and very Bioaccumulative	STOT SE	specific target organ toxicity - single exposure
VOC Volatile Organic Compounds vPvB very Persistent and very Bioaccumulative	SVHC	Substance of Very High Concern
vPvB very Persistent and very Bioaccumulative	TWA	time-weighted average
, , ,	VOC	Volatile Organic Compounds
WEL workplace exposure limit	vPvB	very Persistent and very Bioaccumulative
	WEL	workplace exposure limit

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU Regulation (EC) No. 1272/2008 (CLP, EUGHS)
 Dangerous Goods Regulations (DGR) for the air transport (IATA)

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Ethanol, denatured

article number: PO0934.1



- International Maritime Dangerous Goods Code (IMDG)

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

Code	Text
H225	highly flammable liquid and vapour
H302	harmful if swallowed
H319	causes serious eye irritation
H336	may cause drowsiness or dizziness

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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